HRS DOCUMENTATION RECORD COVER SHEET

Name of Site: Lane Street Ground Water Contamination
EPA ID No.: INN000510229

Contact Persons

Site Investigation:
Mark Jaworski
Indiana Department of Environmental Management (IDEM)
Indianapolis, IN
(317) 233-2407

Documentation Record:
Mark Jaworski
IDEM
Indianapolis, IN
(317) 233-2407

Erica Islas
U.S. Environmental Protection Agency (EPA)
Chicago, IL
(312) 353-7209

Pathways, Components, or Threats Not Scored

The presence of volatile organic compounds (VOCs) above health benchmarks in the drinking water of private residential and commercial ground water wells is the primary pathway of concern (See Section 3.1.1 of this HRS documentation record). The surface water, air, and soil exposure pathways were not scored because based on the data available at the time, a release to these media did not significantly affect the overall site score and because the ground water pathway produces an overall site score above the minimum required for the site to qualify for inclusion on the NPL. These pathways may be of concern to IDEM and EPA and may be evaluated during future investigations.

Surface Water Migration Pathway

The most prominent surface water feature potentially subject to contamination in this area is the St. Joseph River which is located to the south of the known ground water contamination (Ref. 3, p. 0060). There are no identified drinking water intakes along the possible 15 mile target distance limit (Ref. 3, p. 041). Currently there are no state fish advisories posted for the VOCs that were detected during the investigations of this site (Ref. 3, p. 041). This pathway would minimally impact the overall site score.

Air Migration Pathway

There is insufficient data to establish an observed release of VOCs to the air pathway (Ref. 3, p. 042). Without an observed release, only the potential to release may be evaluated for this pathway. This pathway would minimally impact the overall site score.

Soil Exposure Pathway

The soil exposure pathway is not scored because data is not available at this time to document observed contamination for this pathway.

HRS DOCUMENTATION RECORD

Name of Site: Lane Street Ground Water Contamination Date Prepared: March 2009

EPA Region: 5

Street Address of Site:* Lane Street at County Road 106

City, County, State, ZIP: Elkhart, Elkhart County, Indiana 46514

General Location in the State: North Central Indiana in Elkhart County in the northeast sector of Elkhart, Indiana. The contaminated ground water is centered at the intersection of Lane Street and County Road 106. (Refs. 13; 14; 15; 16; 17; p. 6 of this HRS documentation record)

Topographic Map: Elkhart, IN

Latitude: 41° 43' 00.65" North Longitude: 85° 55' 15.62" West

References: 13; 25; p. 6 of this HRS documentation record

The coordinates above define the intersection of Lane Street and County Road 106 (Refs. 13; 25; p. 6 of this HRS documentation record).

* The street address, coordinates, and contaminant locations presented in this HRS documentation record identify the general area in which the site is located. They represent one or more locations EPA considers to be part of the site based on the screening information EPA used to evaluate the site for NPL listing. EPA lists national priorities among the known "releases or threatened releases" of hazardous substances; thus, the focus is on the release, not precisely delineated boundaries. A site is defined as where a hazardous substance has been "deposited, stored, placed, or otherwise come to be located." Generally, HRS scoring and the subsequent listing of a release merely represent the initial determination that a certain area may need to be addressed under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). Accordingly, EPA contemplates that the preliminary description of facility boundaries at the time of scoring will be refined as more information is developed as to where the contamination has come to be located.

Scores

Air Pathway	Not Scored
Ground Water Pathway	81.06
Soil Exposure Pathway	Not Scored
Surface Water Pathway	Not Scored
HRS SITE SCORE	40.53

WORKSHEET FOR COMPUTING HRS SITE SCORE

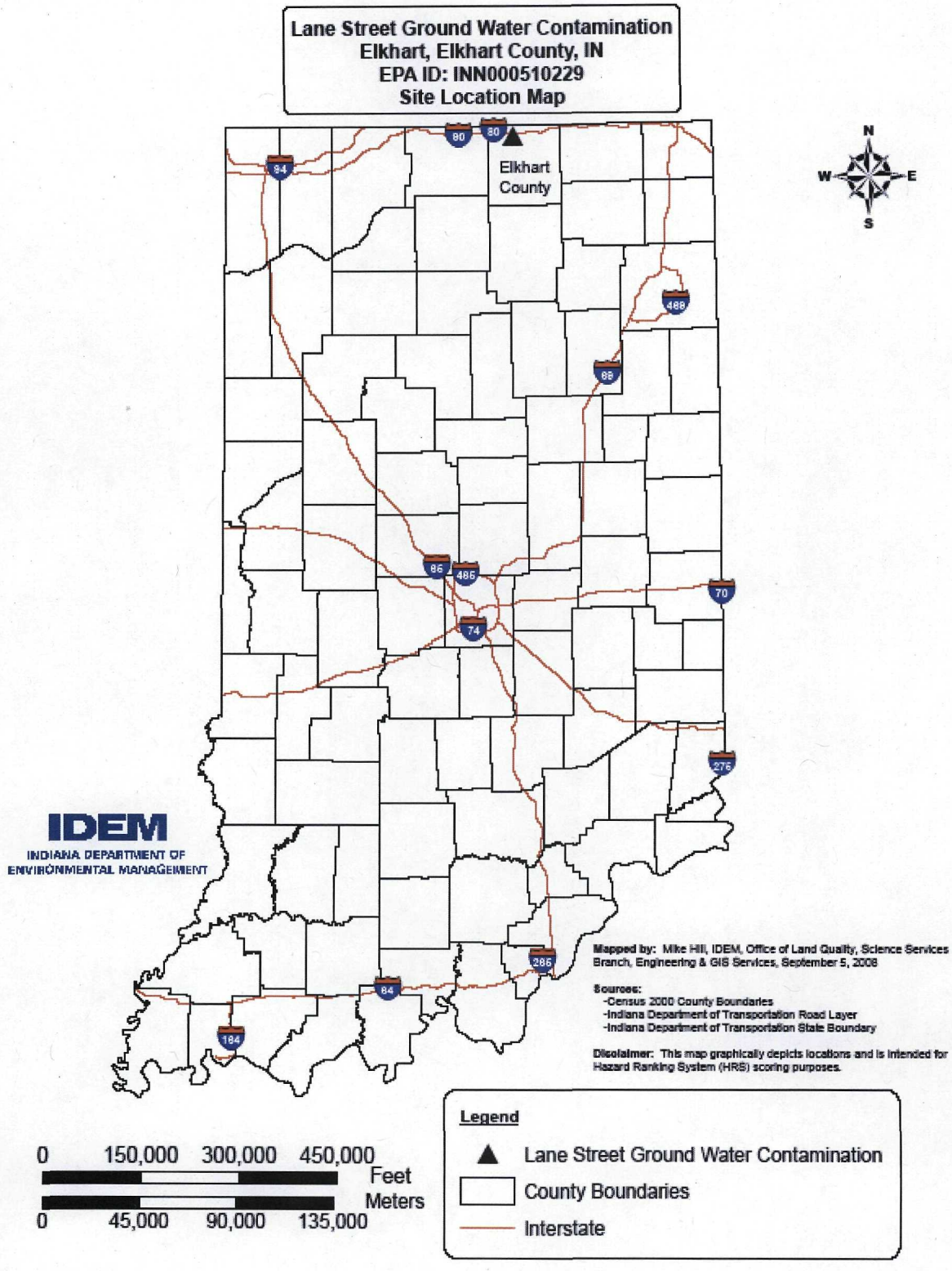
		S	S^2
1.	Ground Water Migration Pathway Score (S_{gw})	81.06	6570.7236
2a.	Surface Water Overland/Flood Migration Component (from Table 4-1, line 30)	Not Scored	Not Scored
2b.	Ground Water to Surface Water Migration Component (from Table 4-25, line 28)	Not Scored	Not Scored
2c.	Surface Water Migration Pathway Score (S_{sw}) Enter the larger of lines 2a and 2b as the pathway score.	Not Scored	Not Scored
3.	Soil Exposure Pathway Score (S_s) (from Table 5-1, line 22)	Not Scored	Not Scored
4.	Air Migration Pathway Score (S_a) (from Table 6-1, line 12)	Not Scored	Not Scored
5.	Total of $S_{gw}^2 + S_{sw}^2 + S_s^2 + S_a^2$		6570.7236
6.	**HRS Site Score** Divide the value on line 5 by 4 and take the square root	40.53	

GROUND WATER MIGRATION PATHWAY SCORESHEET

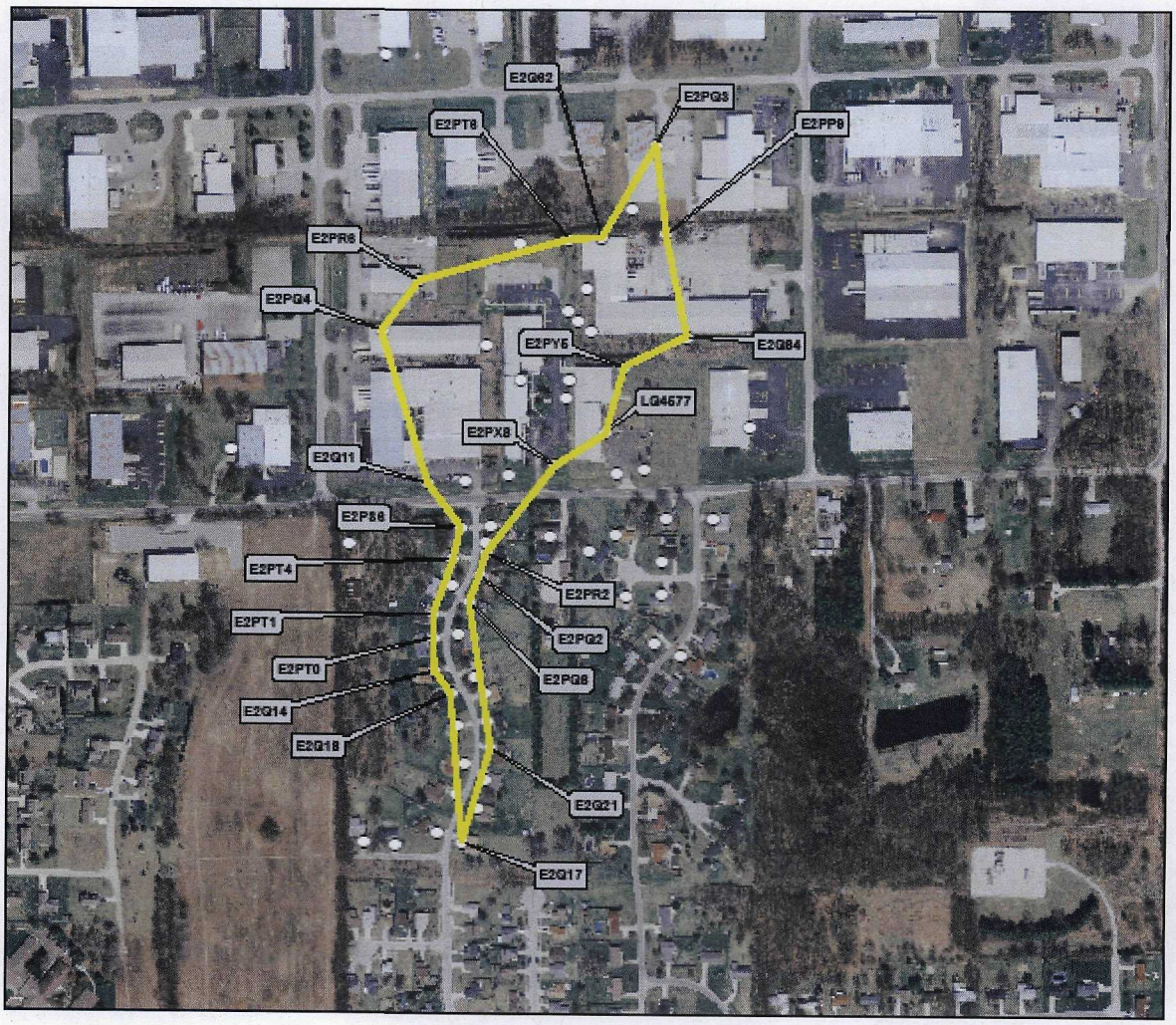
REF.1, TABLE 3-1

Factor Categories and Factors	Maximum Value	Value Assigned
Likelihood of Release to an Aquifer:		
1. Observed Release	550	550
2. Potential to Release:		
2a. Containment	10	NS
2b. Net Precipitation	10	NS
2c. Depth to Aquifer	5	NS
2d. Travel Time	35	NS
2e. Potential to Release [lines 2a x (2b + 2c + 2d)]	500	NS
3. Likelihood of Release (higher of lines 1 and 2e)	550	550
Waste Characteristics:		
4. Toxicity/Mobility	a	10,000
5. Hazardous Waste Quantity	a	100
6. Waste Characteristics	100	32
Targets:		
7. Nearest Well	50	50
8. Population:		
8a. Level I Concentrations	b	330
8b. Level II Concentrations	b	
8c. Potential Contamination	b	
8d. Population (lines 8a + 8b + 8c)	b	330
9. Resources	5	NS
10. Wellhead Protection Area	20	NS
11. Targets (lines 7 + 8d + 9 + 10)	b	380
GROUND WATER MIGRATION SCORE FOR AN AQUIFER		
12. Aquifer Score [(lines 3 x 6 x 11)/82500][c]	100	81.06
GROUND WATER MIGRATION PATHWAY SCORE		
13. Pathway Score (S_{gw}), (highest value from line 12 for all aquifers evaluated)[c]	100	81.06

a Maximum value applies to waste characteristics category.
b Maximum value not applicable.
c Do not round to nearest integer.
NS Not Scored


Lane Street Ground Water Contamination
Elkhart, Elkhart County, IN
EPA ID: INN000510229
Site Location Map
Elkhart County
N
W
E
S
80
90
94
469
69
65
465
70
74
275
IDEM
INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
Mapped by: Mike Hill, IDEM, Office of Land Quality, Science Services Branch, Engineering & GIS Services, September 5, 2008
Sources:
-Census 2000 County Boundaries
-Indiana Department of Transportation Road Layer
-Indiana Department of Transportation State Boundary
Disclaimer: This map graphically depicts locations and is intended for Hazard Ranking System (HRS) scoring purposes.
0 150,000 300,000 450,000
Feet
Meters
0 45,000 90,000 135,000
Legend
Lane Street Ground Water Contamination
County Boundaries
Interstate

Lane Street Ground Water Plume Bounday Map
Defined by Chlorinated VOC's from Key Findings List &
Preliminary Assessment Ground Water Sampling Results
Elkhart, Elkhart County, IN
EPA ID: INN000510229



0 250 500 750 Feet
0 75 150 225 Meters

N
W E
S

IDEM
INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

Legend
- Sample Locations
- Lane Street Gound Water Plume Boundary

Mapped by: Mike Hill, IDEM, Office of Land Quality, Science Services Branch, Engineering & GIS Services, September 11, 2006

Sources:
-2005 Indiana Orthophotography
(IndianaMap Framework Data: www.indianamap.org)
-The ground water plume boundary was defined by drawing a line connecting the outer-most ground water sample locations with known detections of chlorinated VOCs based on the Key Findings List and the Preliminary Assessment Ground Water Sampling Results.

Disclaimer: This map graphically depicts locations and is intended for Hazard Ranking System (HRS) scoring purposes.

Lane Street Ground Water Contamination Map
Elkhart, Elkhart County, IN
EPA ID: INN000510229

0 400 800 1,200 Feet

0 100 200 300 Meters

N W E S

IDEM
INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

Legend

× Indicates Approximate Center of Lane Street Ground Water Contamination

Mapped by: Mike Hill, IDEM, Office of Land Quality, Science Services Branch, Engineering & GIS Services, September 5, 2008

Sources:
-Indiana Department of Transportation Road Layer
-2005 Indiana Orthophotography
(IndianaMap Framework Data www.indianamap.org)

Disclaimer: This map graphically depicts locations and is intended for Hazard Ranking System (HRS) scoring purposes.

REFERENCES

Ref.
No. Description of the Reference

1. EPA. Hazard Ranking System, 55 Federal Register 51532. December 14, 1990. 137 pages.

2. EPA. Superfund Chemical Data Matrix (SCDM) Appendix A (Chemical Data, Factor Values, and Benchmarks for Chemical Substances), Excerpt of pages for Trichloroethylene (TCE), 1,1-Dichloroethane (1,1-DCA), 1,1-Dichloroethene (1,1-DCE), cis-1,2-DCE, trans-1,2-DCE, Tetrachloroetheylene (PCE), 1,1,1-Trichloroethane (1,1,1-TCA), Data Versions: 01/28/2004 (for 1,1-DCA, 1,1-DCE, cis-1,2-DCE, trans-1,2-DCE, PCE, and 1,1,1-TCA), and interim revised (10/23/2006) values for TCE; Appendix BI (Hazardous Substance Factor Values), Data Versions: 01/27/2004, and interim revised values (6/23/2006) for TCE; and Appendix BII (Hazardous Substance Benchmarks), Data Versions: 01/27/2004, and interim revised values (6/23/2006) for TCE. 70 pages. A complete copy of SCDM is available at http://www.epa.gov/superfund/sites/npl/hrsres/tools/scdm.htm.

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Note Regarding Page References: Reference (Ref.) 1 is referenced using the documents "native" page numbers. All other documents are referenced with page numbers assigned to make the HRS documentation record more user friendly.

2.0 SITE SUMMARY

2.0.1 SITE DESCRIPTION

Lane Street Ground Water Contamination (CERCLIS ID INN000510229) is located near the intersection of Lane Street and County Road 106, in the northeast sector of Elkhart, Elkhart County, in north central Indiana. Lane Street Ground Water Contamination consists of a contaminated ground water plume with no identified source. The plume is characterized by privately-owned residential and commercial drinking water wells on Lane Street and north of the intersection of Lane Street and County Road 106 that meet the criteria for establishing an observed release for chlorinated volatile organic compounds (VOCs) (Refs. 3, p. 0761; 7, p. 15; 19, p. 014; and Section 3.1.1 of this HRS documentation record). Hazardous substances identified in the ground water include: 1,1,1-trichloroethane (1,1,1-TCA), trichloroethylene (TCE), 1,1-dichloroethane (1,1-DCA), 1,1-dichloroethylene (1,1-DCE), cis-1,2-DCE, trans-1,2-DCE, and tetrachloroethylene (PCE) (Section 3.1.1 of this HRS documentation record).

The area on Lane Street consists of only residential properties, and is bound to the north by County Road 106, to the east by Kershner Lane, to the south by other residential subdivisions, and to the west by farm land (Refs. 3, pp. 009, 010, 0755; 13; 27, p. 023). The area north of the intersection of Lane Street and County Road 106 is an industrial park that is comprised of numerous light industrial/commercial buildings and offices (Refs. 3, pp. 009, 010, 0755, 912; 13; 27, p. 023).

The ground surface in the area is relatively flat and slopes gently to the south. Topographic maps for the area show that there is 5 ft or less of relief across the site. As a result, samples collected from similar depths will have similar elevations and be directly comparable (Refs. 5, p. 0001A; 13).

The depth to ground water across this area is generally approximately 6 feet below ground surface (bgs) but varies between 2 to 12 feet bgs (Refs. 5, pp. 003, 025; 40, p. 888). The majority of the private drinking water wells in the area are screened in the sands and gravels of the St. Joseph Aquifer (Ref. 5, p. 003). Regional ground water flow is south-southwesterly toward the St. Joseph River (Refs. 3, p. 0767; 5, p. 003).

2.0.2 SITE HISTORY

Lane Street Ground Water Contamination was discovered during the investigation of contamination associated with the Geocel Corporation (Geocel) facility on Marina Drive, confined to an area bordered by Kershner Lane to the west, the Geocel facility to the north, County Road 113 to the east, and Crestwood Street to the south (Refs. 3, p. 0755, 19, p., 02). Geocel alerted IDEM and the Elkhart County Health Department (ECHD) about the ground water contamination associated with its operation and applied to IDEM's Voluntary Remediation Program (VRP) in June 2007 (Refs. 28, p. 001; 40, pp. 006, 880).

On August 22, 2007, the Site Investigation Section of IDEM received a call from the ECHD (Ref. 19, pp. 02, 08). The ECHD stated that a Lane Street resident had submitted a sample of the residence's drinking water to the Water Quality Laboratory at Heidelberg College in Tiffin, Ohio (Refs. 19, pp. 02, 08; 30, p. 001). Lane Street is located one street west of Kershner Lane (Ref. 3, p. 0755). The analysis of the water revealed highly elevated levels of TCE (1,360 µg/L) and breakdown products (Ref. 30, pp. 001 to 004; 80, p. 0001 through 0003).

On August 23, 2007, IDEM staff conducted a PreCERCLIS Screening which consisted of a visual site reconnaissance of the surrounding properties (Ref. 19, pp. 02, 08). All residents on Lane Street utilize private wells for drinking water (Ref. 39, p. 002). Numerous businesses and small industries are situated in the industrial park located north of County Road 106 (Refs. 3, pp. 009, 010, 0755, 912; 13; 19, p. 09; 27, p. 023).

Following this effort, Site Investigation staff sampled the ground water from seven private wells (along with a necessary duplicate and a trip blank) on and north of Lane Street including the residence that had phoned the ECHD with the elevated TCE concentration (Ref. 19, pp. 09, 010, 014). The samples were identified by LQ4537 through LQ4544 (Refs. 19, pp. 010 and 014; 21, p. 005). Analysis of the ground water samples revealed that the drinking water in four residential wells contained elevated levels of VOCs at concentrations above MCLs (Ref. 19, pp. 09, 010).

On August 30, 2007, IDEM conducted another sampling event on Lane Street as part of a Preliminary Assessment (Ref. 7, p. 001). Thirty nine water samples were collected which included necessary duplicates and a trip blank (Ref. 7, pp. 014, 016, 017, 018). The samples were identified by LQ4570 through LQ4579, LQ4581 through LQ4595, and LQ4597 through LQ4610 (Ref. 7, pp. 014, 016, 017, 018). Analysis of the water samples collected for this sampling event revealed that the drinking water from residential wells on Lane Street contained elevated levels of TCE and other VOCs (Ref. 7, pp. 022, 023, 027; Sections 2.2.2 and 3.1.1 of this HRS documentation record).

After the results of the water from the wells sampled were reviewed and found to be acceptable for use, IDEM's Office of Land Quality provided bottled water to those people whose water was found to contain elevated levels TCE (Ref. 18, pp. 001, 002). IDEM alerted EPA that some residential sample results for TCE had exceeded or were close to the MCL (Ref. 12, p. 001, 002). EPA confirmed elevated levels were present in residential wells, informed the residents, and provided filters to some residents (Refs. 11; 12, pp. 001, 002).

From April 14 through April 17, 2008, IDEM staff conducted a Site Inspection at the Lane Street Ground Water Contamination Site (Ref. 3, p. 020). Staff collected 132 ground water samples (Refs. 3, pp. 020 through 027; 4, pp. 001A, 004 through 014, 017 through 069, 071 through 093, 095 through 101, 103 through 106, 114 through 121, 123, 128 through 135, 137 through 143). Ground water samples were obtained from private wells and from discrete locations from an industrial park utilizing two direct push instruments (Refs. 3, pp.020 through 027; 4, pp. 001, 004 through 014, 017 through 069, 071 through 093, 095 through 101, 103 through 106, 114 through 121, 123, 128 through 135, 137 through 143). Staff also collected nine soil samples in an attempt to identify a source area (Refs. 3, pp. 031, 032, 0763; 4, pp. 070, 107 through 113, 122, 136). Staff also determined that ground water flow direction is toward the south to southwest, from the nearby industrial park toward Lane Street (Ref. 3, pp. 039, 0769).

TCE and other breakdown products were detected in 12 residential ground water samples collected during the April 2008 SI (E2PS5, E2PS6,E2PS7, E2PR0, E2PR2, E2PQ2, E2PQ8, E2PT0, E2PT1, E2PT4, E2PT5, E2Q14) (See Section 3.1.1 of this HRS documentation record). Samples E2PQ2 is a duplicate of E2PR0, E2PS7 is a duplicate of E2PS6, and E2PT4 is a duplicate of E2PT5 (Refs. 3, pp. 021, 022; 4, pp. 011, 019, 035, 036, 043, 044). TCE detections ranged from 1.3 µg/L to as high as 330 µg/L in these residential wells (Section 3.1.1 of this HRS documentation record). In an attempt to identify a source area, chlorinated VOCs were also detected in ground water samples that were obtained with direct push instruments from an industrial park in the area (Ref. 3, pp. 035 through 037, 0757, 0759; Section 3.1.1 of this HRS documentation record). No VOCs were detected in the soil samples collected (Refs. 3, pp. 032, 042, 0763; 4, pp. 070, 107 through 113, 122, 136; 20, pp. 613 through 621, 628 through 651).

Because the source of the chlorinated solvents has not been identified even after collecting many ground water and soil samples, IDEM staff conducted several reconnaisance visits at numerous facilities in the area to identify potential sources (Ref. 3, pp 015 through 019, 954 through 1028). In addition to the ground water contamination, EPA and IDEM are concerned about potential vapor intrusion into the residences of the area.

Level of Effort:

In September, 2007, IDEM staff conducted work for a PreCERCLIS Screening Assessment under CERCLA (Ref. 19, pp. 01A, 03, 05). In August 2007, IDEM staff collected eight (8) ground water samples from wells on and north of Lane St. (Ref. 19, pp. 09, 10, 14; 55, p. 01A). This work was completed to determine the presence of elevated levels of VOCs in drinking water (Refs. 19, pp. 02, 010; 55). A PreCerclis Screening is a review of information on potential NPL sites and is an initial low-cost look at potential sites (Ref. 60, p.01A).

Sample results from the August 2007 sampling event revealed elevated levels of TCE above MCLs (Refs. 19, pp. 02, 012, 015; 21, pp. 005, 011, 015, 017, 022, 024, 027, 41; 55, p. 01A). On August 30, 2007, IDEM staff conducted another sampling event (Ref. 56, p. 01A). This work was presented in a Preliminary Assessment (PA) under CERCLA (Ref. 7, p. 001). A total of 39 water samples were collected which included necessary duplicates and a trip blank for this second phase of the investigation (Refs. 7; 56, p. 01A). The purpose of the sampling was to determine the number of private drinking water wells that were impacted with elevated levels of TCE (Ref. 56, p. 01A). The regional and local ground water flow direction is likely south-southewesterly towards the St. Joseph River, which is located approximately 1.5 miles south of the site (Ref. 27, p. 011). Therefore, ground water samples were also obtained from the industrial/commercial facilities located northwest, north and northeast of Lane Street in an attempt to locate the source(s) of the ground water contamination (Ref. 7, pp. 014, 15). Work conducted to complete a PA usually does not involve sampling (Ref. 59, p. 0014).

In 2008, IDEM staff conducted a Site Inspection (SI) under CERCLA (Refs. 3, p. 001; 53, p. 0001; 61, pp. 0001 through 0007). The SI sampling was conducted from April 14 through 17 (Ref. 3, p. 020). As stated in the workplan for the SI, the project objective was to verify the presence of TCE in the drinking water of residential and commercial wells and to attempt to identify the source(s) of TCE ground water contamination (Ref. 54, p. 0003). The approved work plan stated that 112 ground water samples and 5 soil samples would be obtained (Ref. 54, p. 0003).

The work plan was drafted using the triad approach (Ref. 57, p. 0002). The triad approach attempts to use systematic planning, dynamic work strategies, and real time measurements to compress mitigation and cleanup actions. The triad approach was developed by EPA to streamline investigations and cleanups (Refs. 57, p. 0002; 58, pp. 0009, 0010, 0013).

IDEM staff employed the use of two (2) direct push devices to obtain ground water and subsurface soil samples. One direct push device was operated by IDEM staff and the other was operated by EPA staff (Ref. 57, p. 0003). A portable gas chromatograph, (GC) operated by an IDEM chemist, was also utilized. IDEM staff used the GC instrument for screening of ground water samples. The instrument provided 'real-time' qualitative screening results. This allowed for the expedited investigation of the extent of the contaminant plume without having to wait for laboratory results and provided a qualitative scale for comparison of contaminated samples. The portable GC was capable of screening for volatile contaminants in the gaseous phase. Through the use of the internal separation column(s) and comparison

with established retention time calibration data, it was possible to both identify the contaminants present and to establish a relative concentration of the contaminant in the gaseous sample (Ref. 57, p. 0003).

In addition to IDEM's portable GC screening activities, Techlaw's Environmental Sampling Assistance Team (ESAT) was tasked to operate their mobile laboratory as part of their Field Analytical Support Program (FASP) Task Order, under the Superfund program. ESAT analyzed water and soil samples in their mobile laboratory using a GC with a mass spectrometer (GC/MS) in order to provide both qualitative identification and quantitative data for VOCs on a rapid turn around time. They provided three chemists for full time analysis in support of this operation (Ref. 57, p. 0003)

The ground water samples were screened in the field from the two mobile laboratories and the results were used by IDEM geologists to assist with the determination of the next sample location. Sample locations were based on the levels and presence of contamination in the screening samples and the direction of ground water flow. Samples were also located to establish the width of the Lane Street contaminant plume that is impacting the private residential wells on Lane Street (Ref. 57, p. 0003).

Utilizing both direct push devices, ground water samples were generally collected from depths of 8 feet, 18 feet, and 30 feet below the ground surface (corresponding to the depth of the water table) (Ref. 5, p. 004; 57, p. 0003).

Since two mobile screening laboratories were used to screen samples for chlorinated VOCs prior to EPA Contract Laboratory Program (CLP) analysis, IDEM staff obtained three separate volumes (nine 40–milliliter [mL] vials) of each sample; one for each of the two mobile screening laboratories and one for EPA's CLP (Ref. 57, p. 0003). All ground water sample collection followed procedures outlined in the conditionaly approved Quality Assurance Project Plan (QAPP) and IDEM's standard operating procedures for borehole ground water sampling and residential well sampling (Refs. 22, pp. 0001 through 0003; 51, p. 0001; 52, p. 0001).

With the use of the direct push devices, three piezometers (temporary monitoring wells) were installed at sample locations E2PY0, E2PX3, and E2PX6. Staff were able to construct a potentiometric surface map and determine more precise ground water flow direction in the immediate area of Lane Street. IDEM determined the ground water flow direction to be south to southwesterly. This allowed staff to search for the source area(s) north to north east of Lane Street (Ref. 3, p. 0769).

Eleven soil samples were collected at the site (Refs. 3, pp. 031, 032, 0763, 0771; 50, p. 0001; 57, p. 0004). The majority of the subsurface soil samples were obtained in an area north of Lane Street, on the western sector of the Hadley property which had been used by the former Dygert facility (Ref. 3, p. 0763). This area was chosen for soil samples because this was the only area where TCE was detected in the ground water of the shallow portion (8 feet deep) of the aquifer (Ref. 3, pp.0765, 0767, 0771). Since TCE was not found in the shallow portion of the aquifer upgradient to this area, a detection of TCE in this shallow portion of the aquifer would indicate a possible source area (Ref. 3, pp. 0765, 0767). Analysis of the subsurface soil samples collected in this area revealed no detections of any VOCs (Ref. 3, p. 042).

A total of 132 ground water samples were collected as part of the SI (Ref. 3, p. 020). Ground water analysis conducted by the two onsite laboratories indicated that elevated levels of VOCs were being detected in a northerly direction and a source area was not identified (Ref. 57, p. 0004).

As part of the SI sampling event in April 2008, IDEM staff conducted reconnaissance inspections at 14 businesses. The businesses were located north (upgradient) of Lane Street. These businesses were located in an area bounded to the south by County Road 106, to the east by Marina Drive, to the north by

Cooper Drive, and to the west by Ada Drive. The purpose of the inspections was to locate potential sources for the ground water plume (Ref. 3, pp. 015, 016, 017, 018, 019; 57, p. 0004; 77; 78)

In August 2008 and December 2008, Site Investigation staff asked John Hulevicz of ECHD to review its inspections files for all facilities north of Lane Street on or near Ada Drive, Cooper Drive, and Marina Drive. On August 14, 2008, Mr. Hulewicz faxed the requested information (Refs. 63; 64; 65; 66; 67; 68; 69; 70; 71; 72; 73; 79).

On September 17, 18, and 19, 2008, IDEM staff conducted a second round of reconnaissance visits at businesses located north of Lane Street. These businesses were located in an area bounded to the south by County Road 106, to the east by Marina Drive, to the north by Cooper Drive, and to the west by Ada Drive. The purpose of the visits was another attempt to locate potential source(s) for the ground water plume (Ref. 3, pp. 0955 through 1028; Ref. 57, p. 0004).

2.2 SOURCE CHARACTERIZATION

2.2.1 SOURCE IDENTIFICATION

Source Number: 1

Source Type: Ground water plume with no identified source

Description and Location of Source (with reference to a map of the site):

The Lane Street Ground Water Contamination site consists of a ground water plume (Ref. 3, p. 0767; the location of the contaminated ground water wells that characterize the plume is found in Refs. 3, p. 0761; 7, p. 15; 19, p. 014). Even though numerous ground water samples (132) were obtained during the April sampling to identify possible sources of chlorinated solvents, (including: TCE, 1,1,1-TCA, trans-1,2-DCE, cis-1,2-DCE, 1,1-DCA, 1,1-DCE, and PCE; the sampling was unable to identify and reasonably attribute with confidence the ground water contamination to any known source (Refs. 3, pp. 020 through 027; 5, p.005). Per the HRS, the plume itself will be considered the source (Ref. 1, Sec 1.1, p. 51587). The extent of this plume has not been completely delineated at this time but has been characterized by data from residential wells, commercial private wells, and ground water samples obtained using direct push instruments (See Sections 2.2.2 and 3.1.1of this HRS documentation record).

The outer boundaries of the contaminated ground water plume have tentatively been established from west to east along County Road 106 from Ada Drive to Marina Drive and north to south from Cooper Drive to Barley Circle (Sections 2.2.2 and 3.1.1 of this HRS documentation record). Note: The northern extent of the ground water plume has not been determined and may extend beyond Cooper Drive. Unimpacted, "background" wells were identified around the plume (See Section 2.2.2 of this HRS documentation record). Fifteen private wells, consisting of residential and commercial privately owned sources, were found to be contaminated with chlorinated VOCs (See Sections 2.2.2 and 3.1.1 of this HRS documentation record). An additional 41 direct push wells were found to be contaminated (see Sections 2.2.2 and 3.1.1 of this HRS documentation record). These wells are within a one-mile radius of the center of the plume (Refs. 25; 3, pp. 0062, 0761; Sections 2.2.2, 3.1.1 of this HRS documentation record). The center of the plume is denoted by the intersection of Lane Street and County Road 106 (Ref. 25; p. 6 of this HRS documentation record).

In August 2008, IDEM's Site Investigation Section began Site Inspection (SI) activities at Lane Street Ground Water Contamination (Ref. 3, p. 014). IDEM conducted sampling using the EPA CLP for sample analysis (Ref. 3, p. 029). Many of the samples obtained for this sampling event were screened using EPA's contract mobile laboratory and IDEM's portable GC instrument which demonstrate sample comparability to CLP analytical results (Ref. 3, pp. 029, 030, 031; 23; 29, p. 029; 35; 36, p. 001; 37). Sample results obtained from the CLP showed that the concentrations of TCE were above the EPA MCL of 5.0 µg/L for TCE in eight samples from seven drinking water wells in a range of 7.6 to 330 µg/L (Sections 2.2.2 and 3.1.1 of this HRS documentation record).

2.2.2 HAZARDOUS SUBSTANCES ASSOCIATED WITH THE SOURCE

The site is being scored as a ground water plume with no identified source (Ref. 1, Sec 1.1, p. 51587). The ground water samples along with their respective VOC detections listed below were collected by IDEM Site Investigation Staff in August 2007 and April 2008 (Refs. 3, pp. 013, 020, 0765, 0767; 7, pp. 014 through 019). Refer to Section 3.1.1 for a list of ground water samples that were found to be contaminated.

HAZARDOUS SUBSTANCES AVAILABLE TO A PATHWAY

Containment Description	Containment Factor Value	Reference(s)
Gas release to air:	Not Scored	
Particulate release to air:	Not Scored	
Release to ground water: Because there is an observed release of a hazardous substance to ground water a containment value of 10 has been assigned (See Sections 2.2.2 and 3.1.1 of this HRS documentation record).	10	1, Table 3-2, p. 51596
Release via overland migration and/or flood:	Not scored	

Notes: The Containment Factor Value for the ground water migration pathway was evaluated for "All Sources" for evidence of hazardous substance migration from source area (i.e. source area includes source and any associated containment structures). A containment factor value of 10 has been determined based on existing analytical evidence of both hazardous substance migration (contamination detected in ground water samples from private wells used for drinking water) and due to the fact that there is nothing to prevent the plume from migrating further (See Sections 2.2.2 and 3.1.1 of this HRS documentation record; Ref. 1, Table 3-2, p. 51596).

2.4.2 HAZARDOUS WASTE QUANTITY

2.4.2.1.1 Hazardous Constituent Quantity

Description

The information available is not sufficient to evaluate Tier A source hazardous waste quantity, as required in Section 2.4.2.1.1 of the HRS. As a result, hazardous constituent quantity is not scored (NS), and the evaluation of source hazardous waste quantity proceeds to Tier B (Ref. 1, Section 2.4.2.1.1, pp. 51590, 51591).

Hazardous Constituent Quantity Assigned Value: NS

2.4.2.1.2 Hazardous Wastestream Quantity

Description

The information available is not sufficient to evaluate Tier B source hazardous wastestream quantity; as required in Section 2.4.2.1.2 of the HRS. As a result, hazardous wastestream quantity is not scored (NS), and the evaluation of Hazardous Waste Quantity proceeds to the evaluation of Tier C, Volume (Ref. 1, Section 2.4.2.1.2, p. 51591).

Hazardous Wastestream Quantity Assigned Value: NS

2.4.2.1.3 Volume

Description

Because there are wells with samples showing contamination in the ground water but the volume of the contaminated ground water has not been determined, the volume measure of the ground water plume source is considered to be greater than 0 cubic yards but unknown (Ref. 1, Section 2.4.2.1.3, p. 51591).

Volume Assigned Value: Unknown, but >0

2.4.2.1.4 Area

Description

Area, Tier D, is not available for scoring for source type "other" (Ref. 1, Table 2-5, p. 51591).

Area Assigned Value: NA (Not Available)

2.4.2.1.5 Source Hazardous Waste Quantity Value

The source hazardous waste quantity value for Source 1 is unknown, but > 0 (Ref. 1, Section 2.4.2.1.5, p. 51591).

Source Hazardous Waste Quantity Value: Unknown, but >0

SUMMARY OF SOURCE DESCRIPTIONS

Source No.	Source Hazardous Waste Quantity Value	Source Hazardous Constituent Quantity Complete? (Y/N)	Containment Factor Value by Pathway				
			Ground Water (GW) (Ref. 1, Table 3-2)	Surface Water (SW)		Air	
				Overland/flood (Ref. 1, Table 4-2)	GW to SW (Ref. 1, Table 3-2)	Gas (Ref. 1, Table 6-3)	Particulate (Ref. 1, Table 6-9)
1	Unknown, but >0	N	10	NS	NS	NS	NS

NS Not Scored

Possible Sources of Ground Water Plume

Although the source(s) of the chlorinated solvents has not been identified, there are numerous industrial facilities in the area (Ref. 3, pp. 015 through 019, 0771, 0954 through 1027).

Reconnaissance site visits at some facilities were conducted in April and September, 2008 (Ref. 3, pp. 015 through 019, 0771, 0954 through 1027). Elkhart County site inspection reports (that were submitted the Elkhart County Health Department in August and December 2008) for some nearby facilities were also reviewed (Refs. 63; 64; 65; 66; 67; 68; 69; 70; 71; 72; 73; 79). The facilities were located in an area bounded to the north by Cooper Drive, to the west by Ada Drive, to the south by County Road 106, and to the east by Marina Drive (Ref. 3, p. 0771). The purpose of these visits was to determine the possible source(s) of the ground water plume around Lane Street based on activities that were being conducted in the neighborhood. The facilities listed below may have stored or used hazardous substances which are being detected in the ground water; however, there is insufficient information to determine if there are releases from these facilities which are contributing to the ground water plume with no identifiable source (Ref. 3, pp. 015 through 019, 954 through 1027; 69; 70; 71; 72; 74; 79).

Former Dygert Seating Facility
2503 Marina Drive, 2505 Marina Drive, 3507 Cooper Drive (Ref. 3, p. 0771)
Elkhart, Indiana

The former Dygert Seating facility was comprised of three buildings located at 2503 Marina Drive (current location of Hadley Products), 2505 Marina Drive (current location of Shepherd Distributing Company), and 3507 Cooper Drive (current Location of CQC, Inc.) (Ref. 3, pp. 0955, 0982, 1006). For information on CQC, Inc., Hadley Products, and Shepherd Distributing Company, please see the "Attribution" discussion in Section 3.

Accoring to the current management of these three buildings, the buildings were built around 1983 or 1984 and Dygert Seating was the original occupant (Ref. 3, pp. 0955, 0981, 0982, 1006), Flexsteel Industries, Inc. acquired the assets of Dygert Seating in March of 1997 (Ref. 3, pp. 0955, 0981). The building at 3507 Cooper Drive was leased by Hazen Transport, a local transportation and logistic company as a warehouse and a parking lot before CQC (Ref. 3, pp. 0980, 1006). The building at 2505 Marina Drive was leased by Valhalla Foam, a distributor of cut foam, prior to Shephard Distributing Company (Ref. 3, p. 1002). According to CQC, a retention pond is present on the southern boundary of

the property, meaning between the property at 3507 Cooper Drive and that at 2503 Marina Drive (Ref. 3, pp. 0771, 0982, 1006).

Dygert Seating's line of business is manufacturing upholstered vehicle seating and stadium seating (Ref. 3, p. 0956). Dygert Seating may have used solvents, possibly 111-triclor [1,1,1-TCE] to clean the tips of spray glue guns (Ref. 49, p. 0002). Employees interviewed stated that they never saw any on-site disposal of any liquid or other waste (Ref. 49, pp. 0001, 0002, 0955). Dygert Seating is on the EPA Toxic Release Inventory (TRI) and has been issued RCRA ID #IND005253513 (Ref. 3, p. 0955).

In 1993, analysis of the septic tank effluent indicated the presence of toluene (Ref. 71, p. 0009). In 1999, a septic sample indicated the presence of toluene and o-xylene (Ref. 71, p. 0003).

During the April 2008 SI sampling, elevated levels of TCE were detected in the shallow portions of the surface aquifer at a depth between 8-13 feet in an area located on the west side of the property at 2503 Marina Drive (Refer to ground water samples E2Q01, E2Q95, E2Q42, and E2PZ6 found in Section 3.1.1 of this HRS documentation record; Ref. 3, p. 0767). Ground water samples collected from the same portion of the aquifer upgradient to the above mentioned samples were found to contain no detections of VOCs (Refer to ground water samples E2Q60 and E2Q92 found in Section 2.2.2 of this HRS documentation record; Ref. 3, p. 0767).

Because Dygert Seating may have used 1,1,1-TCE, one of the hazardous substances being scored at this site, this property may be a possible source of the ground water contamination (Ref. 49, p. 0002).

Hach Environmental Systems (ETS)
3504 Henke Street (Ref. 3, pp. 0771, 1009)
Elkhart, Indiana

ETS owned the building from 1985 until 2004, when Riverside Tool Corporation purchased it (Ref. 3, pp. 0997, 1009, 1001). ETS leases the front half of the building from Riverside Tool Corporation since 2004 (Ref. 3, pp. 0997, 1011). For information on Riverside Tool Corporation, please see the "Attribution" discussion in Section 3. ETS stopped manufacturing in the year 2000 and may have used organic solvents and alcohol (Ref. 3, pp. 0999, 1009). ETS currently maintains a small research staff at this location (Ref. 3, p. 0999). Toxic or hazardous substance registration information reports indicate that ETS handled non-hazardous waste, hazardous waste, special denatured alcohol, hydrogen peroxide, coolant, and other miscellaneous lab chemicals (Ref. 69, pp. 0002, 0003, 0004, 0005, 0006). Analysis of one facility soil sample revealed the presence of of 1,1-DCA, 1,1-DCE, and 1,1,1-TCA (Ref. 69, pp. 0007, 0008, 0009, 0013, 0014).

Geocel
2504 Marina Drive (Ref. 3, p. 0771)
Elkhart, Indiana

Geocel manufactures and packages sealants, caulks, and adhesives (Refs. 27, p. 004; 28, pp. 002, 006). General processes include product formulation/mixing and packaging into tubes and other containers (Ref. 27, p. 004). A variety of hazardous and non-hazardous chemicals are used and stored at the property, including PCE (Refs. 27, p. 004; 28, p. 006). Investigations of the property indicate that a release of chlorinated solvents has occurred to the ground water pathway (Refs. 28, pp. 004, 006; 40, pp. 04, 879, 886 through 891, 896 through 901).

Former RE Jackson Facility
2601 Marina Drive (formerly 53217 Marina Drive) (Refs. 3, p. 0771; 70, p. 0002)
Elkhart, Indiana

August 1984 inspections revealed floor drains in building with piping leading to a septic tank. Presses were observed leaking on the floor (Ref. 70, p. 0002). A drum marked 1,1,1-TCA was observed in the building (Ref. 70, p. 0002). Hazardous/toxic substance inventory forms revealed that methylene chloride, water base adhesives, citrus solvent/mineral spirits, waste adhesives, compressor water/oil, methylene chloride adhesives, naphtha, isopropyl alcohol, Scotch Grip adhesive, hydraulic oils, various paints, waste oil, xylene, MEK, and other non chlorinated liquids were being handled at this facility (Refs. 70, pp. 0020, 0022, 0024, 0026; 79, pp. 0003, 0005, 0006, 0008, 0011). Septic tank effluent was sampled in 1993 for VOCs. The analysis indicated the presence of toluene, 2,4-trimethyl benzene, butylbenzene, toluene, xylene, 1,3,5-trimethylbenzene, 1,1-DCA, and other VOCs were detected in the analysis (Ref. 70, pp. 0027, 0028, 0029, 0030). Another analysis collected in 1995 of Test Chamber A0341 indicated the presence of 1,4-dichlorobenzene, 1,2-DCA, methylene chloride, and PCE (Refs. 70, p. 0032; 79, p. 0022). And an analysis of Septic Tank #2 A0343 indicated the presence of 1,4-dichlorobenzene, 1,2-DCA, ethyl benzene, methylene chloride, toluene, TCE, and xylenes (Ref. 70, p. 0034; 79, p. 0024). This business is no longer in operation (Ref. 79, p. 0001A). The building is currently used by Pheonix USA (Ref. 3, p. 0771). Well sample LQ4572, collected at this property, did not show detected concentrations of VOCs of concern (see Section 3.1.1 of this HRS documentation record).

Former Stiles Inc. Facility
(formerly 23551 Cooper Drive), Elkhart, Indiana (Ref. 72, p. 0015)

A complaint in August 30, 1984 stated that the facility was discharging glue-type waste into a drainage ditch located on the facility property (Ref. 72, pp. 0012, 0013, 0014). The facility representative indicated that approximately 50 gallons of glue mixed with water waste is generated each week. Reports indicate that State Board of Health would be contacted regarding potential NPDES issues (Ref. 72, p.0013). 1998 Hazardous/toxic substance inventory forms revealed denatured alcohol, Topcoat, stain, lacquer thinner, acetone, solvent waste, TCE, adhesives, hydraulic oil, and paint were being handled at the facility (Ref. 72, pp. 0002, 0003, 0004, 0005, 0006, 0007). A septic waste sample was collected in August 1993. Analysis of the sample revealed the presence of toluene (Ref.72, pp. 0008). Another analysis of the wastewater in August 1992 revealed the presence of toluene and p-dichlorobenzene (Ref. 72, pp. 0009, 0010, 0011). Inspections reports indicate a potential for migration of contamination onto ground surface from spillage of waste thinner in west storage shed (Ref. 72, p.0015). This facility is no longer in business (Ref. 79, p. 0001A).

Engineered Packaging Systems of Indiana
(formerly 23665 Cooper Drive), Elkhart, Indiana (Refs. 62, p. 0001A; 64, pp. 0004, 0007, 0008)

A grab sample of their septic waste was analyzed. Toluene and ethylbenzene along with 1,1,2,2-tetrachloroethane, 1,4 dichlorobenzene, p-Isopropyltoluene, methylene chloride, styrene, and chloroethane were detected in the septic waste. Reports indicate that waste oil is generated at this location (Refs. 62, p. 0001A; 64, pp. 0004, 0007, 0008).

Cameo Industries
(formerly 53212 Ada Drive), Elkhart, Indiana (Ref. 62, p. 0001A)

According to a 1981 inspection report, part of the building was leased from Specialty Products. Parts of

the building are being used as a chemical storage warehouse. The company distributes degreaser solvents. The company did not have all necessary permits at the time of the inspection. A 1983 inspection report noted possible ground water contamination; however, there were no odors detected in the water nor was there any evidence of spills around the area. Notes indicate that PCE, PCA and 1,1,1-TCA may have been stored there. Ground water sample results did not find any contamination. The company stated in 1982 that Specialty Products lease will terminate March 1, 1982. On October 19, 1981, the company was found to have three Class I violations regarding operating a storage facility in Elkhart without an EPA ID number, poor container conditions, and failure to transport containers as indicated on manifests (Refs. 62, p. 0001A; 65, pp. 0005, 0006, 0007, 0008, 0012, 0013, 0014, 0015, 0017, 0020, 0021).

3.0 GROUND WATER MIGRATION PATHWAY

3.0.1 GENERAL CONSIDERATIONS

Ground Water Migration Pathway Description

The Lane Street Ground Water Contamination plume is located within the St. Joseph Aquifer System, which is an aquifer composed of unconsolidated material dominated by glacial outwash sands and gravels (Refs. 5, pp. 0001A, 009 through 021, 143, 175 through 410, 427; 40, pp. 319, 320, 321, 322, 323, 324, 326, 327, 883). The thickness of the aquifer, which is composed of all the unconsolidated material overlying bedrock, in the study area is up to 200 feet (Refs. 5, pp. 002, 155, 400, 401, 402, 403, 428, 429; 40, p. 884). The Ellsworth Shale, a Devonian-Mississippian formation, is the bedrock formation underlying the St. Joseph Aquifer in the study area (Ref. 5, pp. 002, 003, 426, 427, 429, 453). The bedrock is shale and is not utilized as an aquifer since no water wells are known to be screened above and below it (Ref. 5, pp. 003, 027 through 071). All drinking water wells in the area with logs in the state database are completed in the sands and gravels of the St. Joseph Aquifer (Ref. 5, pp. 003, 027 through 071, 143). Ground water flow direction is south-southwesterly toward the St. Joseph River (Refs. 3, p. 0769; 5, p.003; 40, pp. 883, 906).

- **Aquifer/Stratum 1 (uppermost):**

Description

The surficial aquifer is the aquifer being evaluated. According to the Indiana Department of Natural Resources (IDNR) well logs, no known wells have penetrated the bedrock (Ref. 5, pp. 003, 027 through 071, 143). The aquifer consists of sand and gravel (Refs. 5, pp. 0001A, 009 through 021, 143, 175 through 410, 427; 40, pp. 319, 320, 321, 322, 323, 324, 326, 327, 883). Ground water flow is in a south-southwesterly direction toward the St. Joseph River (Refs. 3, pp. 039, 0769; 5, pp. 003, 024, 111, 112; 40, pp. 04, 879, 883, 906).

3.0.2 GEOLOGY AND HYDROGEOLOGY

Regional Background

The St. Joseph Aquifer system has been contaminated locally by hazardous materials from the Lane Street Ground Water Contamination (See Sections 2.2.2 and 3.1.1 of this HRS documentation record). Lane Street Ground Water Contamination is located in the Kankakee Outwash and Lacustrine Plain of the Northern Moraine and Lake Region physiographic unit in northern Indiana (Ref. 5, pp. 0001A, 009 through 021, 175 through 410, 426). Unconsolidated deposits in this area consist of thick units of Wisconsinan-aged glacial outwash deposits that were left by ice advances of the Saginaw and Erie Lobes approximately 15,000 years ago (Ref. 5, pp. 0001A, 427). Because of the thick deposits of transmissive aquifer material and the relatively high precipitation rate of the Great Lakes region, the St. Joseph Aquifer system is capable of producing over 1,000 gallons per minute from properly constructed wells (Refs. 5, pp. 0001A, 144, 145; 40, p. 883). The St. Joseph Aquifer has been designated a sole-source aquifer by the EPA (Refs. 5, pp.0001A, 416 through 422; 40, p. 884).

Site-specific Considerations

Data collected from soil borings advanced at the Lane Street Ground Water Contamination Site as part of this investigation show that geologic materials in the upper 30 ft of the aquifer range from fine, silty sand to well-sorted gravel (Refs. 5, pp. 009 through 021). No clayey material was encountered in IDEM's site investigation (Ref. 5, pp.002, 009 through 021).

A full geologic investigation also took place at the Geocel facility, which is located immediately east of the Lane Street Ground Water Contamination Site (Refs. 5. pp. 002, 155 through 410; 40, p. 05). Geocel entered into IDEM's Voluntary Remediation Program (VRP) in 2007 to remediate an extensive plume of ground water contamination that resulted from the release of PCE into the subsurface (Ref. 40, pp. 04, 05; 45). Approximately 72 soil borings and 119 monitoring wells have been installed on and around the Geocel facility as part of the investigation into the nature and extent of that contamination (Refs. 5, pp. 002, 155 through 410; 40, pp. 10, 337). The majority of these borings were less than 60 ft deep and only encountered sand and gravel units (Refs. 5, pp.002, 175 through 410; 40, pp. 320 through 327, 382 through 618. 884, 888, 892). Data collected from nested monitoring well pairs ranging in depth from 3 to 59 ft show that the ground water contamination at the Geocel facility is located in the same aquifer as the contamination found on Lane Street. However, thin clay deposits (generally less than 5 ft thick) were found at depths of around 140 ft in the three deepest borings advanced during this investigation (Ref. 40, pp. 608 through 618, 888). This clay is not likely to be continuous over a 2-mile radius from Lane Street Ground Water Contamination. Bedrock was encountered in BG-1 at a depth of around 200 ft (Ref. 5, pp. 002, 155, 400, 401, 402, 403; 40, p. 884).

3.0.2.1 Stratigraphy and Water-Bearing Properties

Glacial outwash is usually overlain by a veneer of topsoil in the Elkhart area (Ref. 5, pp. 002, 459). Soils at the site have been classified as "Plainfield fine sand, 0-2% slopes", which is described as "deep, excessively drained and somewhat excessively drained, coarse-textured soil that developed in sandy outwash" (Ref. 5, pp. 002, 412, 413). The soils are up to 60 inches thick and have a very high permeability (>20 inches per hour (Ref. 5, pp. 002, 412, 413). Varying amounts of fill material (up to approximately 10 ft thick) have also been observed in soil boring logs in the area (Ref. 5, p. 002).

Approximately 170 ft of glacially-derived unconsolidated deposits are present between the Devonian and Mississippian-aged shale bedrock units of the Antrim and Ellsworth Formations (at an elevation of approximately 600 ft) and the ground surface (at an elevation of around 770 ft) (Ref. 5, pp. 002, 427 through 429). In the Elkhart area, most of this glacial material is coarse-grained, although some fine-grained till is also observed in the subsurface (Refs. 5, pp. 002, 027 through 071, 175 through 410, 427 through 429; 40, pp. 09, 10, 320, 321, 322, 323, 324, 326, 327). In the vicinity of the site, an unconfined surficial aquifer consisting of sand and gravel units extends to a depth at least 50 ft below the ground surface. The upper aquifer and a lower, confined, sand and gravel aquifer that extends to the bedrock surface; are separated by a confining unit that is generally between 0 and 50 ft thick across the northwestern part of the county. The confining unit is present within 2 miles of site to the northwest and to the south, causing an aquifer discontinuity in those areas (Ref. 5, pp. 002, 089, 090). However, this confining unit is not continuous through a 2-mile radius from the site, so the upper and lower aquifers are interconnected wherever the confining unit is absent (Ref. 5, pp. 002, 089, 090). **Note:** The confining unit is absent at the Lane Street Ground Water Contamination Site, so the surficial aquifer consists of a single sand and gravel unit that extends to bedrock (Refs. 5, pp. 002, 007, 009 through 021, 087, 089, 090, 175 through 410, 429; 40, pp. 319, 320, 321, 322, 323, 324, 326, 327, 383 through 618). The

ground surface at the site slopes gently to the south, and topographic maps for the area show that there is 5 ft or less of relief across the site (Ref. 13). As a result, samples collected from similar depths will have similar elevations and are comparable. Therefore, all wells that are screened within the unconsolidated deposits are considered the same aquifer. Using data from available IDNR well logs, the Indiana Geological Survey (IGS) has prepared a database (iLITH) recording the thickness of different unconsolidated strata throughout Indiana (Ref. 5, pp. 002, 007).

Hydraulic conductivity values for the aquifers are estimated (by calibrated ground water flow models) to be on the order of magnitude of 10^{-1} to 10^{-2} cm/s (Refs. 5, pp. 003, 103 through 105; 40, 892 through 895). The depth to ground water in Elkhart County ranges from 6 to 15 ft below the ground surface (Refs. 5, pp. 003, 025; 40, p. 888). Regional ground water flow is generally to the south, toward the St. Joseph River, which is located approximately 1.4 miles south of the Lane Street Ground Water Contamination Site (Ref. 5, pp. 003). At the time of IDEM's sampling event, ground water was present at depths of 6 to 7 ft (Refs. 3, pp.021 through 027; 4. pp. 001A, 004 through 069, 071 through 106, 114 through 121, 123, 124, 128 through 140, 143; 5, pp. 003, 024, 025). Data from IDEM's investigation determined that the direction of ground water flow was to the south-southwest, with a hydraulic gradient of 0.0015 ft/ft (Refs. 3, p. 039, 0769; 5, pp. 003, 023, 024; 40, p. 879). Slug testing of the shallow part of the aquifer as part of the investigation of the nearby Geocel site yielded a hydraulic conductivity of approximately 100 ft/day (3.5×10^{-2} cm/s) to 375 ft/day (1.3×10^{-1} cm/s) (Refs. 5, pp. 003, 153, 154; 40, p. 893). Assuming that the hydraulic conductivity of the aquifer at Lane Street Ground Water Contamination is similar to the conductivity at the nearby Geocel facility since they are in the same aquifer, the ground water flow velocity in the upper aquifer is on the order of 0.54 ft/day to 2.0 ft/day (Ref. 5, pp. 003, 023).

St. Joseph Aquifer (unconsolidated sand and gravel with some clay till, Pliocene / Pleistocene / Holocene)

The St. Joseph Aquifer system has been contaminated locally by hazardous materials from the Lane Street Ground Water Contamination Site (See Sections 2.2.2 and 3.1.1 of this HRS documentation record). Lane Street Ground Water Contamination is located in the Kankakee Outwash and Lacustrine Plain of the Northern Moraine and Lake Region physiographic unit in northern Indiana (Ref. 5, pp. 0001A, 426). Unconsolidated deposits in this area consist of thick units of Wisconsinan-aged glacial outwash deposits that were left by ice advances of the Saginaw and Erie Lobes approximately 15,000 years ago (Ref. 5, pp. 0001A, 427). Because of the thick deposits of transmissive aquifer material and the relatively high precipitation rate of the Great Lakes region, the St. Joseph Aquifer system is capable of producing over 1,000 gallons per minute from properly constructed wells (Ref. 5, pp. 0001A, 144, 145). The St. Joseph Aquifer has been designated a sole-source aquifer by the EPA (Refs. 5, pp.0001A, 416 through 422; 40, p. 884).

Ellsworth Shale, Lower Confining Bed (dense dark shale, Devonian / Mississippian) - Bedrock

The Ellsworth Shale forms the lower boundary of the St. Joseph Aquifer underneath the study area. Similar bedrock formations underlie the complete Indiana portion of the St. Joseph River basin. The shale is an aquiclude (non permeable) within the study area, and from IDNR well records, no water wells are known to be screened within it or below it in the study area (Ref. 5, pp.003, 027 through 071, 427, 429, 453).

SUMMARY OF AQUIFER(S) BEING EVALUATED

Aquifer No.	Aquifer Name	Is Aquifer Interconnected with Upper Aquifer within 2 miles? (Y/N/NA)	Is Aquifer Continuous within 4-mile TDL? (Y/N)	Is Aquifer Karst? (Y/N)
1	St. Joseph	Y	N	N

This is the only aquifer being evaluated. All wells in the study area are screened in this aquifer. Bedrock beneath the aquifer is shale and is not believed to be an aquifer (Ref. 5, pp.003, 027 through 071; Sections 2.2.2 and 3.1.1 of this HRS documentation record).

3.1 LIKELIHOOD OF RELEASE

3.1.1 OBSERVED RELEASE

Aquifer Being Evaluated: 1 Surficial

Chemical Analysis

Establishing an observed release by chemical analysis requires analytical evidence of a hazardous substance in the media significantly above background level. If the background concentration is not detected (or is less than the detection limit), an observed release is established when the sample measurement equals or exceeds it own sample quantitation limit (SQL) and that of the background sample. If the SQL cannot be established, the EPA contract-required quantitation limit (CRQL) is used in place of the SQL for sample analyses performed under the EPA CLP, or the detection limit for sample analyses not performed uner the EPA CLP (Ref. 1, Section 2.3, Table 2-3, p. 51589).

The ground water samples collected on August 23, 2007 and August 30, 2007 were sent to Heritage Environmental Services LLC for analysis by EPA Method 524.2 for drinking water (Refs. 7, p. 014; 8, pp. 022 through 038, 042, 043, 044, 051 through 054 through 083, 111 through 133; 21, pp. 009 through 029, 033, 034, 035). Ground water samples that were collected in April 2008 as part of the Site Inspection Work Plan were sent to A4Scientific (a CLP laboratory for CLP Target Compound List [TCL] volatiles using CLP Statement of Work (SOW for Multi-Media, Multi-Concentration Organics Analysis, SOM01.2) (Refs. 3, pp. 029, 83 through 90, 164 through 169, 230 through 236, 288 through 294, 369 through 376, 434 through 442, 547A through 554).

- **Background Concentrations:**

In August 2007, four ground water samples were collected upgradient of the suspected ground water plume as part of the EPA funded PreCERCLIS Screening (LQ4544) and Preliminary Assessment (LQ4572, LQ4573, LQ4574) (Ref. 7, pp. 015, 016, 023; 8, p. 005; 19, pp. 010, 014, 015; 41, p. 08; 42, pp. 03, 04, 05). In April 2008, ten ground water samples were collected up gradient and side-gradient of the suspected ground water plume as part of the EPA funded Site Inspection (E2PR4, E2PR5, E2Q96, E2Q06, E2PT8, E2Q04, E2Q60, E2Q92, E2Q63, E2Q05) (Ref. 3, pp. 014, 759). A total of fourteen ground water samples are considered "background samples" for this HRS documentation record. The well locations can be seen in the sample location maps for each of the sampling events (Ref. 3, pp. 0761; 7, p. 15; 19, p. 014).

The following samples are considered background ground water samples that were obtained from direct push methods. All direct push ground water samples in the area were collected in the sands and gravels of the St. Joseph Aquifer and are in the same aquifer as the permanent well samples (Ref. 5, p. 003, 027 through 071; Sections 3.0.1 and 3.0.2 of this HRS documentation record). The table provides a summary of the background sample descriptions including the well depth. The date in the table that follows reflects the date(s) the ground water was sampled from the well indicated.

Sample ID	Screened Interval (feet bgs)	Date	References
E2Q06	30 feet	4-14-08	3, pp. 024, 0761; 4, p. 073
E2PT8	30 feet	4-16-08	3, pp. 022, 0761; 4, p. 047
E2Q04	8 feet	4-16-08	3, pp. 025, 0761; 4, p. 071
E2Q60	8 feet	4-16-08	3, pp. 026, 0761; 4, p. 114
E2Q92	8 feet	4-17-08	3, pp. 027, 0761; 4, p. 137
E2Q63	8 feet	4-16-08	3, pp. 026, 0761; 4, p. 117
E2Q05	18 feet	4-14-08	3, pp. 024, 0761; 4, p. 072

The table below lists the background samples that are associated with permanent wells (private business wells and private resident wells) located on Lane Street and in the industrial area north of Lane Street. All drinking water wells in the area are completed in the sands and gravels of the St. Joseph Aquifer and are in the same aquifer (Ref. 5, pp. 003, 027 through 071; Sections 3.0.1 and 3.0.2 of this HRS documentation record). The table below provides a summary of the background sample descriptions including the well depth (if known) that drinking water wells are drilled and screened at. Specific driller's logs were not available for each residential well; however, a survey of IDNR well records for the nearby area shows that the shallowest well is 23.9 feet bgs and the deepest well is screened to a depth of 58 feet bgs (Ref. 5, pp. 003, 027 through 071; Sections 3.0.1 and 3.0.2 of this HRS documentation record). The date in the table below reflects the date(s) the ground water was sampled from the well indicated.

Sample ID	Screened Interval (feet bgs)	Date	References
E2PR4	23.9-58 feet	4-14-08	3, pp. 021, 0761; 4, p. 023
E2PR5	23.9-58 feet	4-14-08	3, pp. 021, 0761; 4, p. 024
E2Q96	23.9-58 feet	4-16-08	3, pp. 027, 0761; 4, p. 140
LQ4544	23.9-58 feet	8-23-07	19, pp. 014, 015; 41, p. 08
LQ4574	23.9-58 feet	8-30-07	7, pp. 15, 016, 023; 42, p. 05
LQ4573	23.9-58 feet	8-30-07	7, pp. 15, 016, 023; 42, p. 04
LQ4572	23.9-58 feet	8-30-07	7, pp. 15, 016, 023; 42, p. 03

The following table lists the analytical sample results for background ground water samples that were obtained from direct push methods.

Sample ID	Date	Hazardous Substance	Hazardous Substance Concentration (µg/L)	Detection Limit (µg/L)*	References
E2Q06	4-14-08	1,1-DCA 1,1-DCE 1,1,1-TCA cis-1,2-DCE TCE trans-1,2-DCE PCE	ND ND ND ND ND ND ND	0.50 0.50 0.50 0.50 0.50 0.50 0.50	3, pp. 230 through 236, 245, 246, 263, 265 through 267, 0767; 4, p. 073; 20, pp. 072, 073, 074
E2PT8	4-16-08	1,1-DCA 1,1-DCE 1,1,1-TCA cis-1,2-DCE TCE trans-1,2-DCE PCE	ND ND ND ND ND ND ND	0.50 0.50 0.50 0.50 0.50 0.50 0.50	3, pp. 83 through 90, 93, 94, 130, 132 through 135, 0767; 4, p. 047; 20, pp. 420, 421, 422
E2Q04	4-16-08	1,1-DCA 1,1-DCE 1,1,1-TCA cis-1,2-DCE TCE trans-1,2-DCE PCE	ND ND ND ND ND ND ND	0.50 0.50 0.50 0.50 0.50 0.50 0.50	3, pp. 230 through 236, 245, 246, 263, 265, 266, 267, 767; 4, p. 071; 20, pp. 066, 067, 068
E2Q60	4-16-08	1,1-DCA 1,1-DCE 1,1,1-TCA cis-1,2-DCE TCE trans-1,2-DCE PCE	ND ND ND ND ND ND ND	0.50 0.50 0.50 0.50 0.50 0.50 0.50	3, pp. 83 through 90, 97, 98, 130, 132 through 135, 0767; 4, p. 114; 20, pp. 458, 459, 460
E2Q92	4-17-08	1,1-DCA 1,1-DCE 1,1,1-TCA cis-1,2-DCE TCE trans-1,2-DCE PCE	ND ND ND ND ND ND ND	0.50 0.50 0.50 0.50 0.50 0.50 0.50	3, pp. 547A through 554, 561, 562, 590 through 593, 0767; 4, p. 137; 20, pp. 721, 722, 723

Sample ID	Date	Hazardous Substance	Hazardous Substance Concentration (µg/L)	Detection Limit (µg/L)*	References
E2Q63	4-16-08	1,1-DCA 1,1-DCE 1,1,1-TCA cis-1,2-DCE TCE trans-1,2-DCE PCE	ND ND ND ND ND ND ND	0.50 0.50 0.50 0.50 0.50 0.50 0.50	3, pp. 83 through 90, 101, 102, 130, 131, 133, 134, 135, 0767; 4, p. 117; 20, pp. 473, 474, 475
E2Q05	4-14-08	1,1-DCA 1,1-DCE 1,1,1-TCA cis-1,2-DCE TCE trans-1,2-DCE PCE	ND ND ND ND ND ND ND	0.50 0.50 0.50 0.50 0.50 0.50 0.50	3, pp. 230 through 236, 245, 246, 263, 265, 266, 267, 0767; 4, p. 072; 20, pp. 068 through 071

Detection Limit - The detection limits listed are CRQLs for CLP data adjusted for any dilution factors. Adjusted CRQLs are reported for data obtained under CLP.

The following table lists the analytical sample results for background ground water samples that were obtained from permanent wells (private business wells and private resident wells) located on Lane Street and the industrial park north of Lane Street.

Sample ID	Date	Hazardous Substance	Hazardous Substance Concentration (µg/L)	Detection Limit (µg/L)	References
E2PR4	4-14-08	1,1-DCA 1,1-DCE 1,1,1-TCA cis-1,2-DCE TCE trans-1,2-DCE PCE	ND ND ND ND ND ND ND	0.50 0.50 0.50 0.50 0.50 0.50 0.50	3, pp. 164 through 171, 201, 202, 206, 207, 208, 228, 0767; 4, p. 023; 20, pp. 533, 534, 535
E2PR5	4-14-08	1,1-DCA 1,1-DCE 1,1,1-TCA cis-1,2-DCE TCE trans-1,2-DCE PCE	ND ND ND ND ND ND ND	0.50 0.50 0.50 0.50 0.50 0.50 0.50	3, pp. 164 through 171, 201, 202, 206, 207, 208, 228, 0767; 4, p. 024; 20, pp. 536, 537, 583

Sample ID	Date	Hazardous Substance	Hazardous Substance Concentration (µg/L)	Detection Limit (µg/L)	References
E2Q96	4-16-08	1,1-DCA 1,1-DCE 1,1,1-TCA cis-1,2-DCE TCE trans-1,2-DCE PCE	ND ND ND ND ND ND ND	0.50 0.50 0.50 0.50 0.50 0.50 0.50	3, pp. 164 through 169, 178, 179, 201, 204, 206, 207, 208, 228, 0767; 4, p. 140; 20, pp. 588, 589, 590
LQ4544	8-23-07	1,1-DCA 1,1-DCE 1,1,1-TCA cis-1,2-DCE TCE trans-1,2-DCE PCE	ND ND ND ND ND ND ND	0.50 [DL] 0.50 [DL] 0.50 [DL] 0.50 [DL] 0.50 [DL] 0.50 [DL] 0.50 [DL]	19, pp. 014, 015; 21, pp. 005, 033 through 035, 178 through 187; 41, p. 08
LQ4574	8-30-07	1,1-DCA 1,1-DCE 1,1,1-TCA cis-1,2-DCE TCE trans-1,2-DCE PCE	ND ND ND ND ND ND ND	0.50 [DL] 0.50 [DL] 0.50 [DL] 0.50 [DL] 0.50 [DL] 0.50 [DL] 0.50 [DL]	7, pp. 15, 016, 023; 8, pp. 004, 005, 028, 029, 030; 9, pp. 331 through 336; 42, p. 05
LQ4573	8-30-07	1,1-DCA 1,1-DCE 1,1,1-TCA cis-1,2-DCE TCE trans-1,2-DCE PCE	ND ND ND ND ND ND ND	0.50 [DL] 0.50 [DL] 0.50 [DL] 0.50 [DL] 0.50 [DL] 0.50 [DL] 0.50 [DL]	7, pp. 15, 016, 023; 8, pp. 004, 005, 025, 026, 027; 9, pp.323 through 330; 42, p. 04
LQ4572	8-30-07	1,1-DCA 1,1-DCE 1,1,1-TCA cis-1,2-DCE TCE trans-1,2-DCE PCE	ND ND ND ND ND ND ND	0.50 [DL] 0.50 [DL] 0.50 [DL] 0.50 [DL] 0.50 [DL] 0.50 [DL] 0.50 [DL]	7, pp. 15, 016, 023; 8, pp. 004, 005, 022, 023, 024; 9, pp. 317 through 322; 42, p. 03

Detection Limit - Except where otherwise indicated (i.e., [DL]), the detection limits listed are CRQLs for CLP data adjusted for any dilution factors. Detection limits noted as "DL" are detection limits reported on analytical laboratory's certificate of analysis. Adjusted CRQLs are reported for data obtained under CLP, whereas laboratory detection limits are reported for EPA non-CLP data.

- **Contaminated Samples:**

The following samples meet the observed release criteria and are presented below indicating organic hazardous substances with their concentrations and detection limits. These samples were qualified as "releases" based on the criteria in the HRS Rule (Ref. 1, Table 2-3, p. 51589). The well locations can be seen in the sample location maps for each of the sampling events (Ref. 3, pp. 0761; 7, p. 15; 19, p. 014).

The following table lists ground water samples that were obtained from a direct push method that met observed release criteria. The table provides a summary of the background sample descriptions including the well depth. The date in the table below reflects the date(s) the ground water was sampled from the well indicated. All direct push ground water samples in the area were collected in the sands and gravels of the St. Joseph Aquifer and are in the same aquifer as the permanent well samples (Ref. 5, p. 3, 027 through 071; Sections 3.0.1 and 3.0.2 of this HRS documentation record).

Sample ID	Screened Interval (feet bgs)	Date	References
E2PP2	23 feet	4/16/08	3, pp. 021, 0761; 4, p. 001A
E2PP8	35 feet	4/16/08	3, pp. 021, 0761; 4, p. 007
E2PQ1	18 feet	4/16/08	3, pp. 021, 0761; 4, p. 010
E2PT6	8 feet	4/16/08	3, pp. 022, 0761; 4, p. 045
E2PT7	18 feet	4/16/08	3, pp. 022, 0761; 4, p. 046
E2Q01	13 feet	4/16/08	3, pp. 021, 0761; 4, p. 069
E2Q40	30 feet	4/16/08	3, pp. 025, 0761; 4, p. 103
E2Q41	18 feet	4/16/08	3, pp. 026, 0761; 4, p. 104
E2Q42	8 feet	4/16/08	3, pp. 026, 0761; 4, p. 105
E2Q46	8 feet	4/16/08	3, pp. 026, 0761; 4, p. 106
E2Q61	30 feet	4/16/08	3, pp. 026, 0761; 4, p. 115
E2Q62	18 feet	4/16/08	3, pp. 026, 0761; 4, p. 116
E2Q64	18 feet	4/16/08	3, pp. 026, 0761; 4, p. 118
E2Q65	18 feet	4/16/08	3, pp. 026, 0761; 4, p. 119
E2PY5	18 feet	4/15/08	3, pp. 023, 0761; 4, p. 059
E2PY6	30 feet	4/15/08	3, pp. 023, 761; 4, p. 060
E2PZ6	8 feet	4/15/08	3, pp. 023, 0761; 4, p. 064
E2PZ7	30 feet	4/15/08	3, pp. 023, 0761; 4, p. 065
E2PZ8	18 feet	4/15/08	3, pp. 024, 0761; 4, p. 066
E2PZ9	8 feet	4/15/08	3, pp. 024, 0761; 4, p. 067
E2PX6	30 feet	4/15/08	3, pp. 022, 0761; 4, p. 051
E2PX7	18 feet	4/15/08	3, pp. 023, 0761; 4, p. 052
E2PX8	8 feet	4/15/08	3, pp. 023, 0761; 4, p. 053
E2Q08	18 feet	4/15/08	3, pp. 024, 0761; 4, p. 075
E2Q09	30 feet	4/15/08	3, pp. 024, 0761; 4, p. 076
E2PX3	30 feet	4/14/08	3, pp. 022, 0761; 4, p. 048
E2Q66	30 feet	4/16/08	3, pp. 026, 0761; 4, p. 120
E2Q95	13 feet	4/16/08	3, pp. 027, 0761; 4, p. 139
E2PZ3	30 feet	4/15/08	3, pp. 023, 0761; 4, p. 061

Sample ID	Screened Interval (feet bgs)	Date	References
E2PZ4	18 feet	4/15/08	3, pp. 023, 0761; 4, p. 062
E2PZ5	18 feet	4/15/08	3, pp. 023, 0761; 4, p. 063
E2Q24	18 feet	4/15/08	3, pp. 025, 0761; 4, p. 091
E2Q25	30 feet	4/15/08	3, pp. 025, 0761; 4, p. 092
E2Q26	18 feet	4/15/08	3, pp. 025, 0761; 4, p. 093
E2Q72	30 feet	4/17/08	3, pp. 026, 0761; 4, p. 121
E2Q86	8 feet	4/17/08	3, pp. 027, 0761; 4, p. 131
E2Q87	8 feet	4/17/08	3, pp. 027, 0761; 4, p. 132
E2Q88	18 feet	4/17/08	3, pp. 027, 0761; 4, p. 133
E2Q89	18 feet	4/17/08	3, pp. 027, 0761; 4, p. 134
E2Q90	30 feet	4/17/08	3, pp. 027, 0761; 4, p. 135
E2Q93	18 feet	4/17/08	3, pp. 027, 0761; 4, p. 138

The following table lists ground water samples that were obtained from private wells that met observed release criteria. The table provides a summary of the contaminated sample descriptions including the well depth (if known) that drinking water wells are drilled and screened. Specific driller's logs were not available for each residential well; however, a survey of IDNR well records for the nearby area shows that the shallowest well is 23.9 feet bgs and the deepest well is screened to a depth of 58 feet bgs (Ref. 5, pp. 003, 027 through 071; Sections 3.0.1 and 3.0.2 of this HRS documentation record). All drinking water wells in the area are completed in the sands and gravels of the St. Joseph Aquifer and are in the same aquifer (Ref. 5, pp. 003, 027 through 071; Sections 3.0.1 and 3.0.2 of this HRS documentation record). The date in the table below reflects the date(s) the ground water was sampled from the well indicated.

Sample ID	Screened Interval (feet bgs)	Date	References
E2PR8	30-35 feet	4/14/08	3, pp. 021, 0761; 4, p. 027
E2PR3	23.9-58 feet	4/14/08	3, pp. 021, 0761; 4, p. 022
E2PR6	23.9-58 feet	4/14/08	3, pp. 021, 0761; 4, p. 025
E2PQ8	28 feet	4/15/08	3, pp. 024, 0761; 4, p. 017; 43, pp. 001 through 004; 81, p. 013
E2PT4	30 feet	4/15/08	3, pp. 022, 0761; 4, p. 043; 43, pp. 001 through 004; 81, p. 007
E2PT5	30 feet	4/15/08	3, pp. 022, 0761; 4, p. 044; 43, pp. 001 through 004; 81, p. 007
E2PT0	50 feet	4/14/08	3, pp. 022, 0761; 4, p. 039; 43, pp. 001 through 004; 42, p. 002; 81, p. 019
E2PT1	50 feet	4/14/08	3, pp. 022, 0761; 4, p. 040; 43, pp. 001 through 004; 81, p. 015
E2PS5	30 feet	4/14/08	3, pp. 022, 0761; 4, p. 034; 42, p. 002; 43, pp. 001 through 004; 81, p. 001A

Sample ID	Screened Interval (feet bgs)	Date	References
E2PS6	23.9-58 feet	4/14/08	3, pp. 022, 0761; 4, p. 035; 43, pp. 001 through 004
E2PS7	23.9-58 feet	4/14/08	3, pp. 022, 0761; 4, p. 036; 43, pp. 001 through 004
E2Q14	35 feet	4/14/08	3, pp. 024, 0761; 4, p. 081; 43, pp. 001 through 004; 81, p. 021
E2PQ2	25 feet	4/15/08	3, pp. 021, 0761; 4, p. 011; 43, pp. 001 through 004; 81, p. 009
E2PR0	23.9-58 feet	4/15/08	3, pp. 021, 0761; 4, p. 01943, pp. 001 through 004
E2PR2	24 feet	4/15/08	3, pp. 021, 0761; 4, p. 021; 43, pp. 001 through 004; 81, p. 005
LQ4537	30 feet	8/23/2008	19, pp.014, 015; 41, p. 01A; 43, pp. 001 through 004; 81, p. 001A
LQ4538	30 feet	8/23/2008	19, pp. 014, 015; 41, p. 02; 43, pp. 001 through 004; 81, p. 001A
LQ4539	23.9-58 feet	8/23/2008	19, pp. 014, 015; 41, p. 03; 43, pp. 001 through 004
LQ4540	24 feet	8/23/2008	19, pp. 014, 015; 41, p. 04; 43, pp. 001 through 004; 81, p. 005
LQ4541	30 feet	8/23/2008	19, pp. 014, 015; 41, p. 05; 43, pp. 001 through 004; 81, p. 007
LQ4542	35 feet	8/23/2008	19, pp. 014, 015; 41, p. 06; 43, pp. 001 through 004; 81, p. 021
LQ4575	23.9-58 feet	8/31/08	7, pp. 15, 016, 022, 023; 42, p. 06
LQ4577	23.9-58 feet	8/31/08	7, pp. 15, 016, 022, 023; 42, p. 08
LQ4581	30 feet	8/31/08	7, pp. 15, 016, 022, 023; 42, p. 11; 43, pp. 001 through 004; 81, p. 11
LQ4582	24 feet	8/31/08	7, pp. 15, 016, 022, 023; 42, p. 12; 43, pp. 001 through 004; 81, p. 005
LQ4583	24 feet	8/31/08	7, pp. 5, 016, 022, 023; 42, p. 13; 43, pp. 001 through 004; 81, p. 005
LQ4584	25 feet	8/31/08	7, pp. 15, 017, 022, 023; 42, p. 14; 43, pp. 001 through 004; 81, p. 009
LQ4585	28 feet	8/31/08	7, pp. 15, 017, 022, 023; 42, p. 15; 43, pp. 001 through 004; 81, p. 013
LQ4586	20 feet	8/31/08	7, pp. 15, 017, 022, 023; 42, p. 16; 81, p. 017

Sample ID	Screened Interval (feet bgs)	Date	References
LQ4598	23.9-58 feet	8/31/08	7, pp. 15, 017, 022, 023; 42, p. 26; 43, pp. 001 through 004
LQ4599	30 feet	8/31/08	7, pp. 15, 018, 022, 023; 42, p. 27; 43, pp. 001 through 004; 81, p. 007
LQ4600	40 feet	8/31/08	7, pp. 15, 018, 022, 023; 42, p. 28; 43, pp. 001 through 004; 81, p. 011
LQ4601	50 feet	8/31/08	7, pp. 15, 018, 022, 023; 42, p. 29; 43, pp. 001 through 004; 81, p. 015
LQ4602	50 feet)	8/31/08	7, pp. 15, 018, 022, 023; 42, p. 30; 43, pp. 001 through 004; 81, p. 019
LQ4603	35 feet	8/31/08	7, pp. 15, 018, 022, 023; 42, p. 31; 43, pp. 001 through 004; 81, p. 021

The following table lists analytical sample results for observed release samples that were obtained from a direct push method.

Sample ID	Date	Hazardous Substance	Hazardous Substance Concentration (µg/L)	Detection Limit (µg/L)	References
E2PP2	4/16/08	1,1-DCA 1,1,1-TCA TCE	0.92 14.0 420	0.50 0.50 13*	3, pp. 83 through 92, 130, 131, 133, 0767; 4, p. 001A; 20, pp. 401 through 406
E2PP8	4/16/08	1,1-DCA 1,1,1-TCA TCE	3.7 0.63 190	0.50 0.50 1.0*	3, pp. 83 through 92, 130, 131, 133, 0767; 4, p. 007; 20, pp. 407 through 410, 442 through 444
E2PQ1	4/16/08	1,1,1-TCA TCE	1.6 µg/ 1.6	0.50 0.50	3, pp. 83 through 90, 93, 94, 130, 131, 133, 0767; 4, pp. 010; 20, pp. 411, 412, 413
E2PT6	4/16/08	TCE	0.81	0.50	3, pp. 83 through 90, 93, 94, 130, 132, 133, 0767; 4, p. 045; 20, pp. 414, 415, 416
E2PT7	4/16/08	1,1,1-TCA TCE	1.7 4.7	0.50 0.50	3, pp. 83 through 90, 93, 94, 130, 132, 0767; 4, p. 046; 20, pp. 417, 418, 419
E2Q01	4/16/08	1,1,1-TCA TCE	2.4 84.0	0.50 5.0*	3, pp. 83 through 90, 93, 94, 130, 132, 133, 0767; 4, p. 069; 20, pp. 423 through 428
E2Q40	4/16/08	trans-1,2-DCE TCE	0.56 70	0.50 5.0*	3, pp. 83 through 90, 95, 96, 130, 133, 0767; 4, p. 103; 20, pp. 429 through 434

* E2PP2 was diluted 25-fold for TCE. CRQL has been adjusted based on the dilution factor.
* E2PP8 was diluted 2-fold for TCE. CRQL has been adjusted based on the dilution factor.
* E2Q01 was diluted 10-fold for TCE. CRQL has been adjusted based on the dilution factor.
* E2Q40 was diluted 10-fold for TCE. CRQL has been adjusted based on the dilution factor.

Sample ID	Date	Hazardous Substance	Hazardous Substance Concentration (µg/L)	Detection Limit (µg/L)	References
E2Q41	4/16/08	1,1,1-TCA TCE	4.5 410	0.50 13 *	3, pp. 83 through 90, 95, 96, 130, 131, 133, 0767; 4, p. 104; 20, pp. 435 through 440
E2Q42	4/16/08	1,1,1-TCA TCE	1.8 55	0.50 5.0*	3, pp. 83 through 90, 97, 98, 131, 133, 0767; 4, p. 105; 20, pp. 441, 445, 446, 449, 450, 451
E2Q46	4/16/08	1,1,1-TCA TCE	1.8 47	0.50 5.0*	3, pp. 83 through 90, 97, 98, 130, 131, 131, 133, 0767; 4, p. 106; 20, pp. 452 through 457
E2Q61	4/16/08	1,1-DCA TCE	0.73 18J (10)*	0.50 0.50	3, pp. 83 through 90, 99, 100, 130, 132, 133, 140, 0767; 4, p. 115; 20, pp. 461 through 469A
E2Q62	4/16/08	1,1,1-TCA TCE PCE	2.3 24 1.5	0.50 2.0* 0.50	3, pp. 83 through 90, 99, 100, 130, 132, 133, 0767; 4, p 116; 20, pp. 469B through 472
E2Q64	4/16/08	1,1,1-TCA TCE	1.2 55	0.50 2.5*	3, pp. 83 through 90, 101, 102, 130, 131, 133, 0767; 4, p. 118; 20, pp. 476 through 481

* E2Q41 was diluted 25-fold for TCE. CRQL has been adjusted based on the dilution factor.
* E2Q42 was diluted 10-fold for TCE. CRQL has been adjusted based on the dilution factor.
* E2Q46 was diluted 10-fold for TCE. CRQL has been adjusted based on the dilution factor.
* E2Q61 TCE concentration is an estimated quantity, but the presence of the analyte is not in doubt. The relative percent difference (RPD) between the matrix spike and matrix spike duplicate recoveries is outside criteria. The reported value may be biased unknown. The value presented parenthetically is the concentration adjusted for the bias according to the EPA factsheet in Reference 45.
* E2Q62 was diluted 4-fold for TCE. CRQL has been adjusted based on the dilution factor.
* E2Q64 was diluted 5-fold for TCE. CRQL has been adjusted based on the dilution factor.

Sample ID	Date	Hazardous Substance	Hazardous Substance Concentration (µg/L)	Detection Limit (µg/L)	References
E2Q65	4/16/08	1,1,1-TCA TCE	1.7 35	0.50 5.0*	3, pp. 83 through 90, 101, 102, 130, 131, 133, 07674, p. 119; 20, pp. 482 through 487
E2PY5	4/15/08	1,1,1-TCA TCE	1.2 10	0.50 1.0 *	3, pp. 434 through 442, 477, 478, 480, 481, 0767; 4, p. 059; 20, pp. 337 through 342
E2PY6	4/15/08	1,1,1-TCA TCE	0.58 11	0.50 0.50	3, pp. 434 through 442, 477, 478, 480, 481, 0767; 4, p. 060; 20, pp. 343, 344, 345
E2PZ6	4/15/08	1,1,1-TCA TCE	0.87 ug/L 29J (17)*	0.50 2.5*	3, pp. 434 through 442, 477, 478, 480, 481, 0767; 4, p. 064; 20, pp. 346 through 357
E2PZ7	4/15/08	1,1-DCA 1,1,1-TCA	1.1 2.1	0.50 0.50	3, pp. 434 through 442, 477, 478, 480, 481, 0767; 4, p. 065; 20, pp. 358, 359, 360
E2PZ8	4/15/08	1,1,1-TCA	7.3	0.50	3, pp. 434 through 442, 477, 478, 480, 481, 0767; 4, p. 066; 20, pp. 361, 362, 363

* E2Q65 was diluted 10-fold for TCE. CRQL have been adjusted based on the dilution factor.
* E2PY5 was diluted 2-fold for TCE. CRQL has been adjusted based on the dilution factor.
* E2PZ6 TCE concentration is an estimated quantity, but the presence of the analyte is not in doubt. The RPD between the matrix spike and matrix spike duplicate recoveries is outside criteria. The reported value may be biased unknown. The value presented parenthetically is the concentration adjusted for the bias according to the EPA factsheet in Reference 45.
* E2PZ6 was diluted 5-fold for TCE. CRQL has been adjustd based on the dilution factor.

Sample ID	Date	Hazardous Substance	Hazardous Substance Concentration (µg/L)	Detection Limit (µg/L)	References
E2PZ9	4/15/08	1,1,1-TCA	3.2	0.50	3, pp. 434 through 442, 477, 478, 480, 481, 0767; 4, p. 067; 20, pp. 364, 365, 366
E2PX6	4/15/08	TCE	90.0	2.5*	3, pp. 369 through 378, 407, 408, 411, 412, 0767; 4, p. 051; 20, pp. 207 through 212
E2PX7	4/15/08	1,1,1-TCA TCE	5.8 360	0.50 13*	3, pp. 369 through 380, 407, 408, 411, 412, 0767; 4, p. 052; 20, pp. 213 through 218
E2PX8	4/15/08	1,1,1-TCA	0.52	0.50	3, pp. 369 through 376, 379, 380, 407, 408, 411, 412, 0767; 4, p. 053; 20, pp. 219 through 224
E2Q08	4/15/08	1,1,1-TCA TCE	1.0 15	0.50 0.50	3, pp. 369 through 376, 381, 382, 407, 408, 411, 412, 0767; 4, p. 075; 20, pp. 231, 232, 233
E2Q09	4/15/08	1,1-DCA 1,1,1-TCA TCE	3.6 61 78	0.50 2.5* 2.5*	3, pp. 369 through 376, 381, 382, 407, 408, 411, 412, 0767; 4, p. 076; 20, pp. 234 through 239

* E2PX6 was diluted 5-fold for TCE. CRQL has been adjusted based on the dilution factor.
* E2PX7 was diluted 25-fold for TCE. CRQL has been adjusted based on the dilution factor.
* E2Q09 was diluted 5-fold for 1,1,1-TCA. CRQL has been adjusted based on the dilution factor.
* E2Q09 was diluted 5-fold for TCE. CRQL has been adjusted based on the dilution factor.

Sample ID	Date	Hazardous Substance	Hazardous Substance Concentration (µg/L)	Detection Limit (µg/L)	References
E2PX3	4/14/08	1,1-DCA TCE	3.0 2.7	0.50 0.50	3, pp. 230 through 236, 243, 244, 263, 265, 266, 267, 0767; 4, p. 048; 20, pp. 057, 058, 059
E2Q66	4/16/08	1,1-DCA TCE	1.3 45	0.50 2.5*	3, pp. 164 through 169, 176, 177, 201, 205, 207, 0767; 4, p. 120; 20, pp. 576 through 581
E2Q95	4/16/08	1,1,1-TCA TCE	3.0 110	0.50 5.0*	3, pp. 164 through 169, 176, 177, 201, 204, 206, 207, 0767; 4, p. 139; 20, pp. 582 through 587
E2PZ3	4/15/08	1,1-DCA 1,1,1-TCA TCE	0.62 8.8 440	0.50 0.50 25*	3, pp. 288 through 294, 299, 300, 338, 339, 343, 344, 0767; 4, p. 061; 20, pp. 121 through 126
E2PZ4	4/15/08	1,1,1-TCA TCE	7.3 410	0.50 13*	3, pp. 288 through 294, 299, 300, 338, 339, 343, 344, 0767; 4, p. 062; 20, pp. 127 through 132
E2PZ5	4/15/08	TCE	320	13*	3, pp. 288 through 294, 301, 302, 338, 339, 343, 344, 0767; 4, p. 063; 20, pp. 133 through 138
E2Q24	4/15/08	1,1-DCA 1,1,1-TCA TCE	0.60 16 150	0.50 10* 10*	3, pp. 288 through 294, 303, 304, 338, 340, 343, 344, 0767; 4, p. 091; 20, pp. 148 through 153

* E2Q66 was diluted 5-fold for TCE. CRQL has been adjusted based on the dilution factor.
* E2Q95 was diluted 10-fold for TCE. CRQL has been adjusted based on the dilution factor.
* E2PZ3 was diluted 50-fold for TCE. CRQL has been adjusted based on the dilution factor.
* E2PZ4 was diluted 25-fold for TCE. CRQL has been adjusted based on the dilution factor.
* E2PZ5 was diluted 25-fold for TCE. CRQL has been adjusted based on the dilution factor.
* E2Q24 was diluted 20-fold for 1,1,1-TCA. CRQL has been adjusted based on the dilution factor.
* E2Q24 was diluted 20-fold for TCE. CRQL has been adjusted based on the dilution factor.

Sample ID	Date	Hazardous Substance	Hazardous Substance Concentration (µg/L)	Detection Limit (µg/L)	References
E2Q25	4/15/08	1,1-DCA 1,1,1-TCA TCE	5.6 12 140	0.50 0.50 10 *	3, pp. 288 through 294, 303, 304, 338, 340, 343, 344, 0767; 4, p. 092; 20, pp. 154 through 159
E2Q26	4/15/08	1,1-DCA cis-1,2-DCE TCE	5.3 0.82 190	0.50 0.50 10*	3, pp. 288 through 294, 303, 304, 338, 340, 343, 344, 0767; 4, p. 093; 20, pp. 160 through 163
E2Q72	4/17/08	TCE	11	0.50	3, pp. 547A through 554, 556, 557, 587, 590, 591, 592, 0767; 4, p. 121; 20, pp. 664, 665, 666
E2Q86	4/17/08	TCE	4.5	0.50	3, pp. 547A through 554, 559, 560, 587, 589, 591, 592, 0767; 4, p. 131; 20, pp. 697, 698, 699
E2Q87	4/17/08	TCE	4.6	0.50	3, pp. 547A through 554, 559, 560, 587, 589, 591, 592, 0767; 4, p. 132; 20, pp. 700, 701, 702
E2Q88	4/17/08	TCE	49	25*	3, pp. 547A through 554, 559, 560, 587, 589, 591, 592, 767; 4, p. 133; 20, pp. 703 through 708
E2Q89	4/17/08	1,1,1-TCA TCE	10 770	0.50 25*	3, pp. 547A through 554, 561, 562, 587, 589, 591, 592, 0767; 4, p. 134; 20, pp. 709 through 714

* E2Q25 was diluted 20-fold for TCE. CRQL has been adjusted based on the dilution factor.
* E2Q26 was diluted 20-fold for TCE. CRQL has been adjusted based on the dilution factor.
* E2Q88 was diluted 50-fold for TCE. CRQL has been adjusted based on the dilution factor.
* E2Q89 was diluted 50-fold for TCE. CRQL has been adjusted based on the dilution factor.

Sample ID	Date	Hazardous Substance	Hazardous Substance Concentration (µg/L)	Detection Limit (µg/L)	References
E2Q90	4/17/08	1,1-DCA cis-1,2-DCE 1,1,1-TCA TCE	0.88 0.51 8.0 690	0.50 0.50 0.50 25 *	3, pp. 547A through 554, 561, 562, 591, 592, 0767; 4, p. 135; 20, pp. 715 through 720
E2Q93	4/17/08	1,1,1-TCA PCE	1.2 19	0.50 0.50	3, pp. 547A through 554, 563, 564, 587, 590, 591, 592, 0767; 4, p. 138; 20, pp. 724, 725, 726

Detection Limit - The detection limits listed are CRQLs for CLP data adjusted for any dilution factors. Adjusted CRQLs are reported for data obtained under CLP.

The following table lists analytical sample results for observed release samples that were obtained from private wells (private business and private residential wells located on Lane Street and the industrial park north of Lane Street).

Sample ID	Date	Hazardous Substance	Hazardous Substance Concentration (µg/L)	Detection Limit (µg/L)	References
E2PR8	4/14/08	trans-1,2-DCE cis-1,2-DCE	0.75 21	0.50 1.0*	3, pp. 230 through 236, 239, 240, 241, 242, 263, 264, 266, 267, 0767; 4, p. 027; 20, pp. 027 through 032
E2PR3	4/14/08	cis-1,2-DCE	0.85	0.50	3, pp. 164 through 171, 201, 206, 207, 0767; 4, p. 022; 20, pp. 530, 531, 532

* E2Q90 was diluted 50-fold for TCE. CRQL has been adjusted based on the dilution factor.

* E2PR8 was diluted 2-fold for cis-1,2-DCE. CRQL has been adjusted based on the dilution factor.

Sample ID	Date	Hazardous Substance	Hazardous Substance Concentration (µg/L)	Detection Limit (µg/L)	References
E2PR6	4/14/08	1,1-DCA	2.3	0.50	3, pp. 164 through 171, 201, 202, 206, 207, 0767; 4, p. 025; 20, pp. 539, 540, 541
E2PQ8	4/15/08	1,1-DCA cis-1,2-DCE TCE	5.2 0.76 200	0.50 0.50 10*	3, pp. 338, 341, 434 through 444, 477, 478, 480, 481, 0767; 4, p. 017; 20, pp. 310 through 315
E2PT4	4/15/08	1,1-DCA TCE	7.6 50	0.50 2.5*	3, pp. 434 through 442, 445, 446, 477, 480, 481, 0767; 4, p. 043; 20, pp. 319 through 324
E2PT5	4/15/08	1,1-DCA	7.7	0.50	3, pp. 434 through 442, 445, 446, 477, 480, 481, 0767; 4, p. 044; 20, pp. 325, 326, 327
E2PT0	4/14/08	1,1-DCA TCE	2.0 2.5	0.50 0.50	3, pp. 230 through 236, 243, 244, 263, 264, 266, 267, 0767; 4, p. 039; 20, pp. 045, 046, 047
E2PT1	4/14/08	1,1-DCA TCE	6.5 9.9	0.50 1.0*	3, pp. 230 through 236, 243, 244, 263, 265, 266, 267, 0767; 4, p. 040; 20, pp. 048 through 053
E2PS5	4/14/08	1,1-DCA 1,1,1-TCA TCE	10 3.0 80	0.50 0.50 5.0*	3, pp. 164 through 169, 172, 173, 201, 202, 206, 207, 0767; 4, p. 034; 20, pp. 548 through 553

* E2PQ8 was diluted 20-fold for TCE. CRQL has been adjusted based on the dilution factor.
* E2PT4 was diluted 5-fold for TCE. CRQL has been adjusted based on the dilution factor.
* E2PT1 was diluted 2-fold for TCE. CRQL has been adjusted based on the dilution factor.
* E2PS5 was diluted 10-fold for TCE. CRQL has been adjusted based on the dilution factor.

Sample ID	Date	Hazardous Substance	Hazardous Substance Concentration (µg/L)	Detection Limit (µg/L)	References
E2PS6	4/14/08	1,1-DCA 1,1,1-TCA	4.1 15	0.50 0.50	3, pp. 164 through 169, 172, 173, 201, 202, 206, 207, 0767; 4, p. 035; 20, pp. 554, 555, 556
E2PS7	4/14/08	1,1-DCA 1,1,1-TCA TCE	3.8 14 7.6	0.50 0.50 0.50	3, pp. 164 through 169, 174, 175, 201, 202, 206, 207, 0767; 4, p. 036; 20, pp. 557, 558, 559
E2Q14	4/14/08	1,1-DCA TCE	3.8 1.3	0.50 0.50	3, pp. 164 through 169, 176, 177, 201, 203, 206, 207, 0767; 4, p. 081; 20, pp. 573, 574, 575
E2PQ2	4/15/08	1,1-DCA cis-1,2-DCE TCE	3.3 0.67 220	0.50 0.50 13*	3, pp. 288 through 296, 338, 339, 343, 344, 0767; 4, p. 011; 20, pp. 090 through 095
E2PR0	4/15/08	1,1-DCA cis-1,2-DCE TCE	2.7 0.70 330	0.50 0.50 13*	3, pp. 288 through 296, 338, 339, 343, 344, 0767; 4, p. 019; 20, pp. 099 through 104
E2PR2	4/15/08	1,1-DCA cis-1,2-DCE 1,1,1-TCA TCE	3.7 0.77 16 300	0.50 0.50 13* 13*	3, pp. 288 through 294, 297, 298, 338, 339, 343, 344, 0767; 4, p. 021; 20, pp. 112 through 117
LQ4537	8/23/07	1,1-DCE 1,1,1-TCA TCE 1,1-DCA	0.51 3.4 96 13	0.50 [DL] 0.50 [DL] 5.00* [DL] 0.50 [DL]	19, pp. 014, 015; 21, pp. 005, 009 through 012, 111 through 121; 41, p. 01A

* E2PQ2 was diluted 25-fold for TCE. CRQL has been adjusted based on the dilution factor.
* E2PR0 was diluted 25-fold for TCE. CRQL has been adjusted based on the dilution factor.
* E2PR2 was diluted 25-fold for 1,1,1-TCA. CRQL has been adjusted based on the dilution factor.
* E2PR2 was diluted 25-fold for TCE. Detection limit has been adjusted based on the dilution factor.
* LQ4537 was diluted 10-fold for TCE. Detection limit has been adjusted based on the dilution factor.

Sample ID	Date	Hazardous Substance	Hazardous Substance Concentration (µg/L)	Detection Limit (µg/L)	References
LQ4538	8/23/07	1,1,1-TCA TCE 1,1-DCA	3 120 9.9	0.50 [DL] 5.0 * [DL] 0.50 [DL]	19, pp. 014, 015; 21, pp. 005, 013 through 016; 41, p. 02
LQ4539	8/23/07	1,1-DCE 1,1,1-TCA TCE 1,1-DCA	0.62 21 7.9 4.2	0.50 [DL] 0.50 [DL] 0.50 [DL] 0.50 [DL]	19, pp. 014, 015; 21, pp. 005, 017, 018, 019, 122 through 134; 41, p. 03
LQ4540	8/23/07	1,1-DCE 1,1,1-TCA TCE 1,1-DCA	1.0 23 300 3.7	0.50 [DL] 0.50 [DL] 5.0* [DL] 0.50 [DL]	19, pp. 014, 015; 21, pp. 005, 020 through 023, 135 through 144; 41, p. 04
LQ4541	8/23/07	1,1-DCE 1,1,1-TCA TCE 1,1-DCA	0.62 1.7 55 10	0.50 [DL] 0.50 [DL] 0.50 [DL] 0.50 [DL]	19, pp. 014, 015; 21, pp. 005, 024, 025, 026, 145 through 157; 41, p. 05
LQ4542	8/23/07	TCE 1,1-DCA	1.2 4.1	0.50 [DL] 0.50 [DL]	19, pp. 014, 015; 21, pp. 005, 027, 028, 029, 158 through 169; 41, p. 06
LQ4575	8/31/07	1,1-DCA	1.5	0.50 [DL]	7, pp. 016, 022, 023; 8, pp. 005, 031 through 038, 158; 9, pp. 337 through 345; 42, p. 06
LQ4577	8/31/07	TCE	9.2	0.50 [DL]	7, pp. 016, 022, 023; 8, pp. 005, 042, 043, 044, 158; 9, pp 351 through 359; 42, p. 08
LQ4581	8/31/07	1,1,1-TCA TCE 1,1-DCA	3.8 100 11	0.50 [DL] 2.5 * [DL] 0.50 [DL]	7, pp. 016, 022, 023; 8, pp. 006, 051 through 054, 158; 9, pp. 374 through 382; 42, p. 11

* LQ4538 was diluted 10-fold for TCE. Detection limit has been adjusted based on the dilution factor.
* LQ4540 was diluted 10-fold for TCE. Detection limit has been adjusted based on the dilution factor.
* LQ4581 was diluted 5-fold for TCE. Detection limit has been adjusted based on the dilution factor.

Sample ID	Date	Hazardous Substance	Hazardous Substance Concentration (µg/L)	Detection Limit (µg/L)	References
LQ4582	8/31/07	1,1-DCE 1,1,1-TCA TCE 1,1-DCA cis-1,2-DCE	1.3 28 300 4.8 0.58	0.50 [DL] 0.50 [DL] 5.0 * [DL] 0.50 [DL] 0.50 [DL]	7, pp. 016, 022, 023; 8, pp. 006, 055 through 063; 9, pp. 383 through 391; 42, p. 12
LQ4583	8/31/07	1,1-DCE 1,1,1-TCA TCE 1,1-DCA cis-1,2-DCE	0.99 21 320 3.7 0.53	0.50 [DL] 0.50 [DL] 5.0* [DL] 0.50 [DL] 0.50 [DL]	7, pp. 016, 022, 023; 8, pp. 006, 064 through 072, 158; 9, pp. 392 through 400; 42, p. 13
LQ4584	8/31/07	TCE 1,1-DCA cis-1,2-DCE	300 3.3 0.77	5.0* [DL] 0.50 [DL] 0.50 [DL]	7, pp. 017, 022, 023; 8, pp. 006, 073 through 076, 158; 9, pp. 401 through 408; 42, p. 14
LQ4585	8/31/07	TCE 1,1-DCA cis-1,2-DCE	160 5.9 0.57	5.0 * [DL] 0.50 [DL] 0.50 [DL]	7, pp. 017, 022, 023; 8, pp. 006, 077 through 080, 158; 9, pp. 409 through 417; 42, p. 15
LQ4586	8/31/07	TCE 1,1-DCA cis-1,2-DCE	27 3.9 0.54	0.50 [DL] 0.50 [DL] 0.50 [DL]	7, pp. 017, 022, 023; 8, pp. 006, 081, 082, 083, 158; 9, pp 418 through 427; 42, p. 16
LQ4598	8/31/07	1,1-DCE 1,1,1-TCA TCE 1,1-DCA	0.53 20 7.0 3.9	0.50 [DL] 0.50 [DL] 0.50 [DL] 0.50 [DL]	7, pp. 017, 022, 023; 8, pp. 008, 111 through 118, 159; 10, pp. 110 through 119; 42, p. 26
LQ4599	8/31/07	1,1-DCE 1,1,1-TCA TCE 1,1-DCA	0.56 1.8 49 10	0.50 [DL] 0.50 [DL] 0.50 [DL] 0.50 [DL]	7, pp. 018, 022, 023; 8, pp. 008, 119, 120, 121, 159; 10 pp. 120 through 130; 42, p. 27
LQ4600	8/31/07	TCE 1,1-DCA	49 8.9	0.50 [DL] 0.50 [DL]	7, pp. 018, 022, 023; 8, pp. 008, 122, 123, 124, 159; 10, pp. 131 through 140; 42, p. 28

* LQ4582 was diluted 10-fold for TCE. Detection limit has been adjusted based on the dilution factor.
* LQ4583 was diluted 10-fold for TCE. Detection limit has been adjusted based on the dilution factor.
* LQ4584 was diluted 10-fold for TCE. Detection limit has been adjusted based on the dilution factor.
* LQ4585 was diluted 10-fold for TCE. Detection limit has been adjusted based on the dilution factor.

Sample ID	Date	Hazardous Substance	Hazardous Substance Concentration (µg/L)	Detection Limit (µg/L)	References
LQ4601	8/31/07	TCE 1,1-DCA	21 6.3	0.50 [DL] 0.50 [DL]	7, pp. 018, 022, 023; 8, pp. 008, 125, 126, 127, 159; 10, pp 141 through 150; 42, p. 29
LQ4602	8/31/07	TCE 1,1-DCA	1.1 1.8	0.50 [DL] 0.50 [DL]	7, pp. 018, 022, 023; 8, pp. 008, 128, 129, 130, 159; 10, pp. 151 through 159; 42, p. 30
LQ4603	8/31/07	TCE 1,1-DCA	1.1 3.9	0.50 [DL] 0.50 [DL]	7, pp. 018, 022, 023; 8, pp. 008, 131, 132, 133, 159; 10, pp. 160 through 170; 42, p. 31

Detection Limit - Except where otherwise indicated (i.e., [DL]), the detection limits listed are CRQLs for CLP data adjusted for any dilution factors. Detection limits noted as "DL" are detection limits reported on analytical laboratory's certificate of analysis. Adjusted CRQLs are reported for data obtained under CLP, whereas laboratory detection limits are reported for EPA non-CLP data.

List of Hazardous Substances Associated with Source

The following hazardous substances are associated with the source:
TCE
1,1-DCE
1,1-DCA
cis 1,2-DCE
1,1,1-TCA
trans-1,2-DCE
PCE

Attribution

Due to the number and close proximity of Lane Street Ground Water Contamination to an industrial park that is comprised of numerous light industrial/commercial buildings and offices (Refs. 3, pp. 009, 010, 0752, 0771; 13; 27, p. 023), it is improbable to identify and reasonably attribute with confidence the ground water contamination to any known source. Because the source is a contaminated ground water plume with no identified source of contamination, attribution has not been determined (Ref. 1, Section 3.1.1, p. 51595).

The following information was gathered from a review of the Elkhart County inspection files of various facilities operating north of Lane Street, from interviews conducted during reconnaissance visits, and/or from reviews of EPA/IDEM documents. There is currently no available information that the following facilities may be the source(s) of the ground water contamination.

CQC, Inc.
3507 Cooper Drive, Elkhart, Indiana (Ref. 3, p. 0771)

CQC is a manufacturer of custom interiors for towable vehicles and has been at this location for 18 months (Ref. 3, p. 1006). CQC leases the property. The facility uses standard cleaning products such as Windex, peroxide, and Chlorox (Ref. 3, pp. 0980, 1006). There are no Material Safety Data Sheets (MSDS) on file (Ref. 3, p. 0980).CQC has never used nor does it presently use chlorinated solvents (Ref. 3, p. 0980).

The building was previously occupied by Hazen Transport, a local transportaion and logistic company that used the building as a warehouse and a parking lot (Ref. 3, pp. 0980, 1006).Prior to Hazen Transport, Dygert Seating occupied the building (Ref. 3, pp. 0982, 1006). Please see discussion of Dygert Seating in the "Possible Sources of Ground Water Plume" discussion in Section 2 of this HRS documentation record.

Hadley Products
2503 Marina Drive, Elkhart, Indiana (Ref. 3, p. 0771)

This business unit designs, develops, tests, markets, and manufactures products for the RV and motor coach markets. The facility specializes in the manufacturing of air horns, electric horns, height control valves, mini air compressors, mirrors, smart air management system, tour coaches, and transit interior systems. The human resource manager who has been at the company for two and a half years stated that the company has never used any chlorinated sovents (Ref. 3, p. 0984).

During the April 2008 SI sampling, elevated levels of TCE were detected in the shallow portions of the surface aquifer at a depth between 8-13 feet in an area located on the west side of the property at 2503 Marina Drive (Refer to ground water samples E2Q01, E2Q95, E2Q42, and E2PZ6 found in Section 3.1.1 of this HRS documentation record; Ref. 3, p. 0767). Ground water samples collected from the same portion of the aquifer upgradient to the above mentioned samples were found to contain no detections of VOCs (Refer to ground water samples E2Q60 and E2Q92 found in Section 2.2.2 of this HRS documentation record; Ref. 3, p. 0767). Please see discussion of Dygert Seating in the "Possible Sources of Ground Water Plume" discussion in Section 2 of this HRS documentation record.

Shepherd Distributing Company
2505 Marina Drive, Elkhart, Indiana (Ref. 3, p. 0771)

The company distributes building material for the recreational vehicle and the manufactured housing industry (Ref. 3, p. 1002). Shepherd manufacture a coated paper utilizing a water soluble tar-acrylic mixture coating (Ref. 3, p. 1002).

Prior to Shepherd Distributing, the business that occupied the building was Valhalla Foam (Ref. 3, p. 1002). Valhalla Foam was a distributor of cut foam (Ref. 3, p. 1002). Prior to Valhalla Foam, Dygert Seating occupied the building (Ref. 3, pp. 0955, 0985, 0986, 1002). Please see discussion of Dygert Seating in the "Possible Sources of Ground Water Plume" discussion in Section 2 of this HRS documentation record.

Riverside Tool Corporation
3504 Henke Street (formerly 23575 County Road 106), Elkart, Indiana (Ref. 3, pp. 0771, 0997, 1009)

Riverside Tool Corporation manufactures cutting tools for moulding and wood products (Ref. 3, pp. 0997, 1011). MSDS that were provided for these fluids indicate no chlorinated compounds are present in these products (Ref. 74, pp. 0001A through 0006).

This facility has been at the current address since 2004 (Ref. 3, p. 1011). The company uses water soluble coolants and other liquids that are containerized and removed for property disposal (Ref. 3, pp. 0997, 1011). Riverside Tool purchased the building from ETS in 2004, and leases the front half of the building to ETS (Ref. 3, pp. 0997, 1011). Please see discussion of ETS in the "Possible Sources of Ground Water Plume" discussion in Section 2 of this documentation record.

Alliance Plastics
(formerly 53057 Marina Drive), Elkhart, Indiana (Refs. 62, p. 0001A; 63, pp.0002, 0005, 0006)

A 10/30/95 inspection revealed no county violations. A list of substances used at the facility include methylene chloride, stoddard solvent, ethylene glycol, waste oil, hydraulic oil, thinner, and waste stoddard solvent. No chlorinated solvents were listed (Refs. 62, p. 0001A; 63, pp.0002, 0005, 0006).

Elkhart Metals Distributing
3506 Henke Street (formerly 23537 County Road 106), Elkhart, Indiana (Ref. 3, pp. 0771, 1020)

The facility buys, sells and manufactures steel proucts for Recreation Vehicles (RVs) and truck industry (Ref. 3, p. 1020, 1022). The facility employs 12 people (Ref. 44). The facility utilizes some cutting and minor welding machines (Ref. 3, p. 1020). The company uses water based cutting lubricant (Ref. 3, pp. 1020, 1022).MSDS that were provided for this fluid indicate that no chlorinated compounds are present in this product (Ref. 75, p. 0006 through 0009).

Kellmark Corporation
2501 Ada Drive (formerly 53465 Ada Drive), Elkhart, Indiana (Refs. 3, p. 0771; 62, pp. 0001A)

An inspection in May 2007, noted that one drum of spent solution was stored outside without secondary containment. The inspection noted that spent developer/fixer, various oils, isopropyl alcohol, various inks, paints, paint thinners, and other non-cholorinated liquids were present at the facility (Refs. 62, pp. 0001A, 0002; 66, pp. 0003, 0004, 0005, 0007, 0010).

X-treme Vinyl Solution
2506 Ada Drive (formerly 53386 Ada Drive), Elkhart, Indiana (Refs. 3, p. 0771; 62, p. 0002)

An April 25, 2005 inspection noted noncompliance regarding some 55-gallon drum storage requirements. No violations were noted on other inspections. Denatured alcohol and acrylic enamel reducer liquids were noted at the facility. A septic water sample was analyzed in February 2000. Toluene was detected in the septic sample (Refs. 62, p. 0002; 67, pp. 0002, 0003, 0011, 0012).

Kasa Supply
(formerly 53151 Marina Drive), Elkhart, Indiana (Refs. 62, p. 0002; 68, pp. 0002)

An August 1992 inspection revealed that the facility was discharging glue residue into a discharge pit via a pipe from the building. The facility was told to cease operations, remediate the area, and sample the discharge. Analysis revealed the presence of dichlorodifluorethane, butylbenzene, p-isopropyltoluene, and m-, and p-xylenes (Refs. 62, p. 0002; 68, pp. 0002, 0003 0012, 0013, 0014).

Sherry Designs
(formerly 53387 Ada Drive), Elkhart, Indiana (Refs. 62, p. 0003, 73, p. 0002)

Inspection reports from 1997 indicate violations occurred at the facility regarding failure to register and failure to have secondary containment of outside storage drums. No violations were observed in the 1999 inspection reports. 1998 Hazardous/toxic substance inventory forms revealed that adhesives, adhesive catalyst, and spray adhesives were handled. Reports indicate that the facility was no longer in operation as of October, 2000 (Refs. 62, p. 0003; 73, pp. 0002, 0003, 0005, 0006, 0008, 0010).

J/R Weber Inc. (Weber Cabinets)
3507 Reedy Drive, Elkhart, Indiana (Ref. 3, p. 0771)

The facility is a cabinet manufacturer. Employees use Solvent 100 and a small amount of stain (Ref. 3, p. 1024).

Voyager, Inc.
2500 and 2502 Ada Drive, Elkhart, Indiana (Ref. 3, p. 0771)

Voyager Inc. was established in 1975 and is a manufacturer of precision metal products. The facility has been at this location since 1985 when the building was built (Ref. 3, p. 0996). The business is located in a 120,000 square-foot facility. The facility is a seating manufacturing company (Ref. 3, p. 0996).

Claude Lewis, an employee for 18 years, stated that no chlorinated solvents are currently used or have been used at this facility (Ref. 3, p. 0996).

Ashland Distribution Chemical of Indiana
3501 Cooper Drive, Elkart, Indiana (Ref. 3, p. 0771)

This facility is a distribution warehouse of polyester resins. The facility bulks off the resins from tank trucks and transfers them into drums. No manufacturing occurs at this facility. The plant manager stated that only basic cleaning supplies are used. A 30 ft. deep well is used for fire extinguishing purposes (Ref. 38, p. 001). Prior to Ashland, General Fiberglass operated at this location from 1988 to 1991. General Fiberglass conducted the same type of operations as Ashland Distribution Chemical does now (Ref. 3, p. 019).

Thetford/Norcold Inc. (Newmar Corp)
3503 Cooper Drive, Elkhart, Indiana (Ref. 3, p. 0771)

Thetford is a warehouse and distribution house for refrigerators, toilets for house and recreational vehicle manufacturing. A detailed inspection was denied. Thetford has been at this location since 1994 (Ref. 3, p. 1003).

Troeger Metal Works
2603 Marina Drive, Elkhart, Indiana (Ref. 3, p. 0771)

The facility employs six people. The facility has a city water supply. Troeger is a sheet metal fabricator which cuts, welds, and forms metal to customer specification. Troeger does not produce enough waste to qualify for waste stream status. General trash is disposed in a dumpster. A water-based lubricant is used during production (Ref. 3, p. 1004).

Tumacs LLC
3505 Cooper Drive, Elkhart, Indiana (Ref. 3, p. 0771)

Tumacs employs 9 people. The facility has a city water supply. Tumacs does canvas work for Bennington Covers and some carpet work for the recreational vehicle industry. Tumacs does not produce enough waste to qualify for waste stream status. General trash is their only output (Ref. 3, 1005).

Elkhart Hitch Shop
3502 Cooper Drive (formerly 23665 Cooper Drive), Elkhart, Indiana (Ref. 3, pp. 0771, 1007)

The facility employs three people. The facility has a private water supply. Elkhart hitch installs trailer hitches by bolting hitches to a vehicle for auto dealerships and individual automobile owners. The original business that operated out of this facility constructed engineered packaging and corrugated cardboard. Prior to Elkhart Hitch, the facility was used as a warehouse. Elkhart Hitch does not produce enough waste to qualify for waste stream status (Ref. 3, p. 1007).

Excel Electronics
2600 Marina Drive, Elkhart, Indiana (Ref. 3, p. 0771)

The facility employs 16 people. The facility has a city water supply. Excel designs, assembles, and tests circuit boards. Circuit boards are purchased from outside sources. Excel has operated at this location for 20 years. The prior company operating out of this building produced drapery for the recreational vehicle industry. Excel electronics does not produce enough waste to qualify for waste stream status. General trash is their only output (Ref. 3, p. 1008).

Select Wood Lumber & Building Products
2700 Ada Drive, Elkhart, Indiana (Ref. 3, p. 0771)

The company employs 9 people. The facility has a city water supply. The company is a saw shop that supplies wholesale lumber, plywood, and oriented strand board (OSB) to the recreational vehicle and manufactured housing and pallet construction industry. The company has been at this location for 12 months. Wood Creations operated out of this building prior to Select Wood Lumber. Prior to Wood Creations, an auto conversion company operated and produced small campers at this location. The byproducts of this saw shop include saw dust and irregular sized lumber pieces. The lumber pieces are given away and the saw dust is collected for disposal (Ref. 3, p. 1012).

Hazardous Substances Released

trans-1,2-DCE
cis-1,2-DCE
1,1,1-TCA
TCE
1,1-DCA
1,1-DCE
PCE

Ground Water Observed Release Factor Value: 550
(Ref. 1, Section 3.1.1, p. 51595)

3.1.2 POTENTIAL TO RELEASE

If an observed release can be established, the potential to release was not evaluated (Ref. 1, Section 3.1.2, p. 51595).

3.2 WASTE CHARACTERISTICS

3.2.1 TOXICITY/MOBILITY

The following toxicity, mobility and combined toxicity/mobility factor values have been assigned to those substances associated with Source No. 1, or present in the observed release, which have a containment value greater than 0 (see Section 2.2.2 of this HRS documentation record).

Hazardous Substance	Source / Observed Release	Toxicity Factor Value	Mobility Factor Value	Does Hazardous Substance Meet Observed Release by Chemical Analysis? (Y/N)	Toxicity / Mobility (Ref. 1, Table 3-9)	References
TCE	Source 1, Observed Release	10,000	1	Y	10,000	1, Section 3.2.1.3, p. 51602; 2, p. 058
1,1,1-TCA	Source 1, Observed Release	1	1	Y	1	1, Section 3.2.1.3, p. 51602; 2, p. 021
cis-1,2-DCE	Source 1, Observed Release	100	1	Y	100	1, Section 3.2.1.3, p. 51602; 2, p. 015
trans-1,2-DCE	Source 1, Observed Release	100	1	Y	100	1, Section 3.2.1.3, p. 51602; 2, p. 015
PCE	Source 1, Observed Released	100	1	Y	100	1, Section 3.2.1.3, p. 51602; 2, p. 020
1,1-DCE	Source 1, Observed Release	100	1	Y	100	1, Section 3.2.1.3, p. 51602; 2, p. 015
1,1-DCA	Source 1, Observed Release	10	1	Y	10	1, Section 3.2.1.3, p. 51602; 2, p. 014

All hazardous substances that meet the criteria for an observed release by chemical analysis to one or more aquifers underlying the source(s) at the site, regardless of the aquifer being evaluated, are assigned a mobility factor value of 1 (Ref. 1, Section 3.2.1.2, p. 51601).

Contaminant characteristic values for hazardous substances found in an observed release to the surficial aquifer were derived from the Superfund Chemical Data Matrix (SCDM) (Ref. 2). The hazardous substance with the highest toxicity/mobility factor value available to the ground water migration pathway is TCE (10,000).

Toxicity/Mobility Factor Value: 10,000
(Ref. 1, Section 3.2.1.3, p. 51602)

3.2.2 HAZARDOUS WASTE QUANTITY

Source No.	Source Type	Source Hazardous Waste Quantity
1	ground water plume	Unknown, but >0

The Lane Street Ground Water Contamination has been scored as a site consisting of a contaminated ground water plume with no identified source. According to Section 2.4.2.2 in the HRS, if any target sample for the migration pathway is subject to Level I (or Level II) concentrations, assign either the value from Table 2-6 (Ref. 1, p. 51591) or a value of 100, whichever is greater, as the hazardous waste quantity factor value for that pathway (Ref. 1, Section 2.4.2.2, p. 51592). Because Level I concentrations were present in a drinking water well (see Section 3.3.2.2 of this HRS documentation record), a hazardous waste quantity factor value of 100 is assigned for the ground water pathway.

Hazardous Waste Quantity Factor Value: 100
(Ref. 1, Section 2.4.2.2, p. 51592)

3.2.3 WASTE CHARACTERISTICS FACTOR CATEGORY VALUE

As specified in the HRS, the Hazardous Waste Quantity Factor Value of 100 was multiplied by the highest Toxicity/Mobility Factor Value of 10,000, resulting in a product of 1,000,000 (1.0E+06) (Ref. 1, Section 3.2.3, p. 51602). Based on this product, a Waste Characteristics Factor Category Value of 32 was assigned from Table 2-7 of the HRS (Ref. 1, Section 2.4.3.1, p. 51592).

Utilizing TCE which has the highest Toxicity/Mobility Factor Value of the substances listed in Section 3.2.1 of this HRS documentation record:

Toxicity/Mobility Factor Value: 10,000
Hazardous Waste Quantity Factor Value: 100

Toxicity/Mobility Factor Value (10,000) x
Hazardous Waste Quantity Factor Value (100): 1,000,000 = 1×10^6

Waste Characteristics Factor Category Value: 32
(Ref. 1, Table 2-7, p. 51592)

3.3 TARGETS

The primary targets are private residential drinking water wells. Eleven residential private wells are known to be subject to Level I contamination (See Section 3.1.1 of this HRS documentation record). Thirty three (33) people are known to be utilizing the water from these wells for drinking water (See Section 3.3.2.2 of this HRS documentation record).

3.3.1 NEAREST WELL

Sample ID: E2PS7
Level of Contamination (I, II, or potential): Level I
If potential contamination, distance from source in miles: Not applicable

Sample E2PS7 was obtained at a residence on Lane Street (Refs. 3, pp. 022, 0752, 0761; 4, p. 036). The water in the well at this location was found to contain TCE above the MCL and above the EPA established cancer risk screening concentration benchmark (Ref. 2, p. 058). This well is considered the nearest well (See Sections 2.2.2 and 3.1.1 of this HRS Documentation Record; Ref. 3, pp. 0752, 0761, 0765, 0767).

As specified in the HRS, if one or more drinking water wells are subject to Level I concentrations, a Nearest Well Factor Value of 50 is assigned (Ref. 1, Table 3-11, p. 51603). Level I concentrations have been documented in 11 drinking water wells. See Section 3.3.2.2 of this HRS documentation record.

Nearest Well Factor Value: 50
(Refs. 1, p. 51603, Table 3-11)

3.3.2 POPULATION

3.3.2.1 Level of Contamination

3.3.2.2 Level I Concentrations

Eleven drinking water wells contained Level I concentrations (See Section 3.1.1 of this HRS documentation record). The number of people served by the drinking water wells was documented on the sample field sheets at the time the ground water samples were obtained and/or from telephone calls made to the individual resident at each house by ECHD (Ref. 31).

The samples shown below include detections in drinking water wells that meet or exceed their corresponding benchmark concentrations. The lowest of the drinking water hazardous substance benchmarks for the detected compounds in drinking water samples was used to establish Level I contamination (i.e., cancer risk benchmark of 0.21 µg/L for TCE). An observed release to the Ground Water Migration Pathway has been established based on the detection of these compounds found in the drinking water (See Sections 2.2.2 and 3.1.1 of this HRS documentation record); thus, these wells are associated with Level I concentrations (Ref. 1, Sections 3.3.2.1, 3.3.2.2, p. 51603).

Level I Samples

The following table depicts the Level I samples, the hazardous substance and its concentration, the benchmark concentration, the type of benchmark, and the reference for the associated benchmark.

Property	Sample ID	Hazardous Substance	Hazardous Substance Concentration (µg/L)	Benchmark Concentration (µg/L)	Benchmark	Reference for Benchmark
1	E2PS7 LQ4539 LQ4598	TCE	7.6 7.9 7.0	0.21	Cancer Risk	2, p. 058
2	E2PT4 LQ4541 LQ4599	TCE	50 55 49	0.21	Cancer Risk	2, p. 058
3	E2PT1 LQ4601	TCE	9.9 21	0.21	Cancer Risk	2, p. 058
4	E2PS5 LQ4537 LQ4538 LQ4581	TCE	80 96 120 100	0.21	Cancer Risk	2, p. 058
5	E2PR2 LQ4540 LQ4582 LQ4583	TCE	300 300 300 320	0.21	Cancer Risk	2, p. 058
6	E2PQ2 E2PR0 LQ4584	TCE	220 330 300	0.21	Cancer Risk	2, p. 058
7	E2PQ8 LQ4585	TCE	200 160	0.21	Cancer Risk	2, p. 058
8	LQ4600	TCE	49	0.21	Cancer Risk	2, p. 058
9	E2PT0 LQ4602	TCE	2.5 1.1	0.21	Cancer Risk	2, p. 058
10	E2Q14 LQ4542 LQ4603	TCE	1.3 1.2 1.1	0.21	Cancer Risk	2, p. 058
11	LQ4586	TCE	27	0.21	Cancer Risk	2, p. 058

As specified in the HRS, the Level I concentration factor is the sum of the number of people served by drinking water from points of withdrawal subject to Level I concentrations (Ref. 1, Section 3.3.2.2, p. 51603). The total population counted from the eleven wells is 33 (see table below). The total of 33 was multiplied by 10 for a product of 330 (Ref. 1, Section 3.3.2.2, p. 51603).

Property	Level I Sample	Aquifer	Population	References
1	E2PS7 / LQ4539 / LQ4598	St. Joseph	5	3, pp. 022, 0752, 0761; 4, pp. 035, 036; 7, p. 15, 017, 23; 31, p. 001; 41, p. 03
2	E2PT4 / LQ4541 / LQ4599	St. Joseph	2	3, pp. 022, 0752, 0761; 4, pp. 043, 044; 7, p. 15, 018, 23; 31, p. 001; 41, p. 05
3	E2PT1 / LQ4601	St. Joseph	2	3, pp. 022, 0752, 0761; 4, p. 040; 7, p. 15, 018, 23; 31, p. 001
4	E2PS5 / LQ4537 / LQ4538 / LQ4581	St. Joseph	4	3, pp. 022, 0752, 0761; 4, p. 034; 7, p. 15, 016, 23; 31, p. 001; 41, pp. 01A, 02
5	E2PR2 / LQ4540 / LQ4582 / LQ4583	St. Joseph	4	3, pp. 021, 0752, 0761; 4, p. 021; 7, p. 15, 016, 23; 31, p. 001; 41, p. 04
6	E2PQ2/ E2PR0 / LQ4584	St. Joseph	4	3, pp. 021, 0752, 0761; 4, pp. 011, 019; 7, p. 15, 017, 23; 31, p. 001
7	E2PQ8 / LQ4585	St. Joseph	3	3, pp. 021, 0752, 0761; 4, p. 017; 7, p. 15, 017, 23; 31, p. 001
8	LQ4600	St. Joseph	3	7, pp. 15, 018, 23, 42; 31, p. 001
9	E2PT0 / LQ4602	St. Joseph	2	3, pp. 022, 0752, 0761; 4, p. 039; 7, p. 15, 018, 23; 31, p.001
10	E2Q14 / LQ4542 / LQ4603	St. Joseph	3	3, pp. 024, 0752, 0761; 4, p. 081; 7, p. 15, 018, 23; 31, p.001; 41, p. 06
11	LQ4586	St. Joseph	1	7, pp. 15, 017, 022, 023; 31, p. 001; 42, p. 16

Sum of Population Served by Level I Wells: 33
Sum of Population Served by Level I Wells x 10: 330

Level I Concentrations Factor Value: 330

3.3.2.3 Level II Concentrations

Since the site score is above 28.50 based upon Level I Concentrations, Level II Concentrations were not scored (NS) for this site.

Level II Concentration Factor Value: NS

3.3.2.4 Potential Contamination

Since the site score is above 28.50 based upon Level I Concentrations, Potential Contamination was not scored (NS) for this site.

Potential Contamination Factor Value: NS

3.3.3 RESOURCES

There is no information available indicating that there may be resource use of the surficial aquifer within the target distance limit of Lane Street Ground Water Contamination; therefore, a resources factor value of 0 is assigned (Ref. 1, Section 3.3.3, p. 51604).

Resources Factor Value: 0

3.3.4 WELLHEAD PROTECTION AREA

There is no Wellhead Protection Area where the ground water contamination exists (Refs. 1, Section 3.3.4, p. 51604; 26). Therefore, the Wellhead Protection Area factor value of 0 is assigned (Ref. 1, Section 3.3.4, p. 51604).

Wellhead Protection Area Factor Value: 0